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New Paths for European Innovators – An STS Study on the
Free Circle Business Ecosystem

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Introduction

This thesis is an empirical research work in Sociology of Techno-Science and Economics, studying a group of founders of a European socially oriented business projects that joined efforts to create a shared project based in Liechtenstein, a business ecosystem called Free Circle. A significant body of literature exists on the ambiguous concept of “ecosystem” in organizational and economics studies (Faber et al, 2019); in this thesis it will be used non rigorously to denote a group of businesses and professionals with varied degrees of autonomy and coordination, with a level of complexity which is qualitatively different in respect of that of a single or small traditional company. This business ecosystem is called Free Circle.

The research question starts from an intuition that is also the motivation behind the initial interest for this group: is Free Circle the pioneer of a new emergent European model of innovation, beyond techno-centrism and the Silicon Valley model? It in fact carries multiple novelties that are worth observing with the hypothesis of a new paradigm in mind: a strong focus on the local economy and sustainability, a new culture of work, but more interestingly the refusal of traditional business/financing models and the engagement with the new affordances offered by blockchain technologies - digital ledgers that allow secure and transparent transactions through cryptography, promising in this way the removal of intermediaries in economy and society.

Free Circle GmbH is a for profit company in Liechtenstein in his legal current form, created in 2021, but dating back to years of conversations among professionals in the area of Czech Republic and Slovenia, with the stated goal of becoming a network of professionals and companies around sustainable and local production, now counting six main individual members, five companies in the closest circle and a loose network of partners and contacts around these.

Today we observe an immense variety of economic realities emerging globally: ranging from traditional forms in transformation -local producers connecting in new ways, the digitization of the cooperative movement, old businesses re-imagined- to radically new entities -globally distributed networks of blockchain developers and novel financial infrastructures- and everything in between, this is an historical phase of intense collective experimentation.

In this context, the hypothesis of this research is that Free Circle is combining a series of elements that have not been combined yet, offering a new model for a different approach to “innovation” in the wake of climate catastrophe and socio-political collapse. These elements are not new, and many existing economic worlds embrace them in different mixes, but none of them is trying to combine them all; to be clearer with some examples: the mainstream startup industry is focusing on green tech and blockchain too, but it is still driven by and based on Venture Capitalists’ intense financial speculation as literature which is embraced by the author points out (Luise, 2019). The cooperative movement, promoter of the “democratic economy” is doing some efforts in information technology upgrading but it is still predominantly characterized by old workers and patterns that makes it -also for good reasons- resistant to evolve in this direction. The nascent blockchain industry is afflicted by excessive financialization and, except for rare exceptions, disconnection from the “real economy” (Fritsch, 2021).

Free Circle founders approach the challenge of holistic sustainability merging a startup-like passion for technology, innovation and realizing successful businesses with the democratic ethos of the cooperative movement and the refusal of profit-driven financial speculators. They desire to experiment with decentralized technologies and blockchains, both organizationally and financially, but keeping a strong focus on the local economy. In this peculiar set they carry further elements that are more contextual but still relevant in considering the whole a new paradigm : the collective effort is backed by the vision of a successful entrepreneur that after many traditional business successes is willing to do something different, with significant amount of social and financial capital but against the ethic of profit-only business making, which is not unique but definitely

peculiar; the embracing of complexity sciences driven approaches and complex systems design; a non-mainstream view of technology, that gives a crucial role to organization more than to technical tools, and beyond techno-centrism; a strong orientation toward the traditional Commons and their new digital counterparts enabled by decentralized technologies; an already existing relationship with a national government – Liechtenstein - in the perspective of co-creating a local ecosystem that engages with as more public/private stakeholder as possible and that supports innovators struggling with the law - Free Circles founders are in this sense helping the legislators to create a first meaningful regulation of blockchain technologies and tokens in the country.

The research work

To investigate this, the research work will deal with how these individuals conceive innovation and collective project they launched. The aim is to make sense of the underlying “models of innovation” of the agents, of Free Circle as it is presented, to compare them with the existing sociological literature and organizational models of “innovative businesses” today, so that the hypothesis of Free Circle being the pioneer of a new paradigm can be tested.

In the period this work has been conducted (June to October 2022) the project does not have a formal organizational structure yet, and it exists informally -the company has been registered and the website created, but no meaningfully structured operativity- as a loose network of professional and existing or emerging companies with the intention of establishing some shared infrastructure in the wake of the so called “web3” trend; using the blockchain technology and state of the art organizational design to create an ecosystem capable of connecting and empowering the single elements and pushing local sustainable production forward. Informal conversations among the core members started three/four years ago, while the first concrete steps in the definition and creation of Free Circle as a project date back to the last two years, and the company has been incorporated in 2021.

This phase is particularly interesting as it is possible to reconstruct the narratives and realities of an ecosystem in the making, in a crucial moment -design and informal beginning of operations- and before the solidification of organizational and cultural structures.

The research is realized in the context of my Erasmus Traineeship in Liechtenstein, in the office of Free Circle. The bulk of the empirical material is constituted of unstructured interviews (two/three for every founder), conducted online due to the high mobility of the individual founders, not all located in Liechtenstein and/or almost never physically present in the office, which mostly deals with the bureaucratic side of things and has been quite inactive during my permanence period - due to expected and unexpected elements.

The interviews will be 2/3 for every one of the four founders, the first interviews focusing on the individual background and the second/third ones on the Free Circle project. The interviews are unstructured and attempt at covering a series of main points (biography, conception of innovation, of technology, of social change in the firsts; description of Free Circle as an organization, its operations, its vision, particularly interesting situations of the past, controversies among the members in the next ones) but letting the interviewed go in the direction he/she prefers to facilitate the generation of useful and interesting insights. Only in the last interview was the founder confronted explicitly with the research hypothesis, to avoid influencing his answers and perspectives in the previous interviews.

The narratives from the agents will be deconstructed sociologically to identify the underlying paradigms: what is their conception of innovation, social change, technology, organizing, if we consider STS literature in this regard? Are they “mainstream” (for example: linear model of innovation and techno-centrism) or more sophisticated and aware? What are the observable implications of their views in the ecosystem project design and development? Beyond the perspective of the agents, what can be said of Free Circle if we look at it from the outside and compare it to existing models?

The linear model of innovation we refer to here was an early model developed to comprehend the relationship between science and technology, that starts with basic research and progresses to applied research, development, and diffusion. It considers scientific research to be the foundation of innovation, which leads to economic growth.

Many academics have critiqued the model over the years. The majority of the complaints focused on its impreciseness and limits in capturing the sources, processes, and outcomes of innovation (Godin, 2006). As it will be shown, FC founders have some elements of this old framework in their narratives but their practices reflect embodied comprehension of the non linearity of innovation.

The substance of the business activities is interesting too for an STS perspective as it includes different economic sectors all approaching the challenge of “sustainable innovation”: green AgriTech, sustainable fashion, 3d printing, localization and decentralization of production and consumption.

Chapter 1: Literature Review and Theoretical Framework

The research work is meant to compare the existing literature on innovation and models of innovation with the “innovation model” of Free Circle (from now on, FC) as it emerges from the interviews with its founders. This body of research is incredibly vast and multidisciplinary, and the selection will be limited to STS approaches to innovation, some review literature (Silicon Valley literature, social innovation, open innovation) and some specific materials that were found relevant in the light of the research question. This effort is conducted without pretension of being systematic, but to engage with the most relevant frameworks in circulation and make sense of FC complexity in this light. This chapter is an overview of the main thematic blocks and not an exhaustive list of all the individual sources that will be used to analyze the interviews.

The first and more important consideration to do in this sense is that these interviews will be read with an awareness of the various problems with the concept of innovations, adopting the lens of critical studies on innovation; as STS are brought to repeat often, this term is not “neutral” nor univocal, but rather very political and complex to define. Even if it won’t play a big role in the interviews or empirical analysis, the critical literature considering the current mainstream conception of innovation as a linear process, techno-centric and intrinsically positive for mankind inform the background of this work, as well as the literature focusing on the relationship between innovation processes and the dynamics of the global capitalist system we live in.

For the first dimension, the study incorporates the critique to the historically very influential and still powerful “linear model of innovation”, meaning the one in which “innovation starts with basic research, then adds applied research and development, and ends with production and diffusion” (Godin, 2006). Regarding innovation being intrinsically positive, as it’s been expressed by Gold and argued extensively in the book “Critical Studies of Innovation: Alternative Approaches to the Pro-Innovation Bias” by Godin (Godin, 2017): “The four building blocks or assumptions [around literature on

innovation] are: technological innovations are inherently attractive; are generally the product of processes that are planned; are generated through a chain of essentially rational decisions; R&D constitutes the most important means to technological innovation.” (Gold, 1969) which is at the same time present in FC founders but also something they are beyond.

The author is aware that innovation is a simplistic term that risks being too inaccurate and charged of unquestioned assumptions, but having considered different alternatives, in the end it was chosen as an angular stone for the research as it a comprehensible framing for the interviewees, professionals working in the technological sector, and also turned out being a useful way to include numerous perspectives in the same conversation: the understanding of FC ecosystem requires understanding and discussing of many different dimensions as economics, organizations and technology; “innovation” was thus considered fit as a semiotic umbrella to make sense of all of these at the same time.

In terms of critical literature considering the relationship between capitalism and innovation, Luise’s work *Le forme dell'innovazione nell'ideologia Californiana. Le retoriche, i modelli e le trasformazioni dell'economia startup* (Luise, 2019) will be the material of reference for what regards Silicon Valley, the “Californian Ideology” and the western startup phenomenon broadly speaking: it thoroughly describes this world’s cultures and dynamics, with quantitative data and sociological qualitative analysis, showing the problems it entails:

“Today, these bohemian billionaires (Musk, Zuckerberg and the like) are not only regarded as successful entrepreneurs, but more importantly as evangelizers of the California ideology. A new entrepreneurial faith that instills in young students, knowledge workers, political stakeholders and financial investors, a new enthusiasm toward the creation of innovative and potentially profitable businesses whose goal is to transform the world into a better place” (Luise 2019). And to zoom in on the problems of financial capitalism: “In this economy it is the financialized business model that dominates. Economic actors are not interested in innovation as such, but in its valorization process. To standardize innovation means making it classifiable and

assessable. [...] It is the financial logic that normalizes innovation. [...] the skills of startupperes are bent to logics that have little to do with creating solutions not yet on the market. A dynamic that is also replicated through the appropriation of the value of network-generated collaborations through platforms” (Birch, 2017).

FC founders don't define themselves startupperes and we'll see how different they are from that culture, but they surely embody many elements of it; also, they unanimously denounce the problems of the current startup industry -in short: predatory financial speculation- envisioning blockchain-based governance and funding solutions as a possible escape from the “rat race” of Venture Capital. This matches with Luise's claim: “These constraints have generated growing discontent among startupperes who want to create businesses that are not dominated by these dynamics. The creation of technological infrastructures, such as blockchain, are enabling these entrepreneurs to experiment with new financing systems and organizational forms.” (Luise, 2019)

In the light of these shortcomings, the thesis of this work is that the FC approach could represent the next evolution of the European innovation path: a search for meaning, focus on social and environmental sustainability, limitation of financial speculation. Ideally this theoretical framework should include the comparison with non-western innovation industries and cultures (China, Latin America, Africa) as well, especially as historically we are moving irreversibly toward multipolar economy and geopolitics, but for the sake of this research question the focus has been limited to the comparison with the mainstream models in the west. FC founders conceive themselves and their projects as oppositional to an old traditional way of doing business in a world that is a European world, even if they do not make this explicit; nobody had meaningful contamination with the outside and there has been no mention of other cultural or business contexts in the interviews.

Furthermore, the innovative elements they combine are very “recent” and belong to a social discourse around technology –especially for what regards the blockchain, or the localization of production through IOT and Robotics- which emanated from the richest

western countries first (Culot, Nassimbeni, 2020). The experimentation around these socio-techniques is surely happening also outside of the west but the center of the scene in this sense is still US and Europe; and finally, as the title suggests, this thesis indicates that FC could be a new path for *European* innovators, as it's well positioned to offer solutions to the problems of the current innovation industry in the current cultural and economic context. There is no pretension of suggesting that this model could be the new paradigm of innovation for every regional system in the world, even though –stepping outside of the academic mode for a moment- it's difficult to imagine a successful future for our global economy without most economic players radically turning toward decentralized green supply chains and meaningful democratic work environments as FC is attempting to.

Speaking now of will be called here mainstream literature –scholars of all fields studying innovation with little use of STS problematizations- despite its shortcomings it has been appropriate for the superficial distinction among the generic categories and distinctions in innovation models needed to differentiate FC model from the existing ones. This work does not bring any systematic or in-depth comparison between FC conception of innovation and the vast variety of models out there, and limits itself to point out the most visible points of difference, the similarities with existing patterns, to give a documented but introductory answer to the research question: does FC represent a new interesting model for European innovators, and why?

Among the paradigms listed for the European innovation scene by Chen et al (2018) such as design-driven innovation (Verganti, 2009), social innovation (Nicholls & Murdock, 2012), public innovation (Swann, 2014), and responsible innovation (Owens et al., 2012; Stilgoe et al., 2013), which emphasize the integration of technological innovation paradigms and humanitarian, social, and value attributes, FC shows attributes of all these approaches. In order: attention to design and quality is relevant to the ecosystem's businesses. A simple example of this: originally “Free Circle” was a company creating high quality well designed clothes that workers could wear both in biking to the workplace and in the office itself; to further confirm the importance of “values”,

according to a core member, the business started well, won prizes in fashion context, but in the attempt to scale it he was faced with the crossroad of either producing them in Asia to keep the price reasonable -but losing quality and local production- or producing them in Europe -with a very high customer price, making it a luxury item- and for this reason it didn't proceed - then transitioning into this loose network of professionals and projects. Aspects of public and responsible innovation are pervasive as the interviewed founders often mention their concern for the impact of business activity, they have a favorable orientation toward open sourcing technology, and they are openly collaborating with Liechtenstein government in the perspective of creating a local, public-private favorable environment for the sustainable economy.

If we use this definition of social innovation as “fundamentally different from economic innovation. Instead of introducing new products or entering new markets, it aims to meet new demands that the market cannot meet through innovation; or to create a more satisfactory business model to give people a better position in the production process to give them a greater role. Social innovation pays more attention to the social attributes of innovation besides the economic attributes. (Nicholls & Murdock, 2012)” it is clear that FC is at the same time strongly inside and outside of this conceptualization: they are very focused on introducing new products and entering new markets, they are definitely business-oriented, but at the same time one of their strongest narrative around their internal drivers is “to create more a satisfactory business model to give people a better position in the production process to give them a greater role”. FC CEO, Mark, spent a considerable time of the interviews -as well as other founders- describing how alienating his experience in the traditional tech business world has been in this sense. The bigger customer base of his agencies was constituted by “banks and big companies” demanding software without any passion or purpose for their own companies’ missions, usually simple profiting; despite being paid well and delivering good services, Mark was frustrated because this soulless work -both in the process itself, both in the result- did not give him any joy or satisfaction.

Another significant element in FC approach to innovation is an explicit embracement of what in literature is called Open Innovation (Wibisono, 2021) and an ideal preference for Open Source over proprietary technology. Some find the patents system -which they engaged with significantly in their career- mostly negative, as it burdens entrepreneurs with unnecessary problems, worsens the quality of innovation and generates the wrong kind of incentives in the market. Other's more radical will is to implement commons-oriented approaches that means radical openness of all processes, especially for what regards knowledge and technology and for those socio-technical infrastructures meant to cover basic needs for people.

This leads to the dimension of management of common resources, both socially and in the context of innovation, another piece of literature included in this framework. The perspective of “the Commons”, here defined as “the cultural and natural resources accessible to all members of a society, including natural materials such as air, water, and a habitable Earth, as well as the social process of collectively governing them” (Ostrom, 2015) has been brought in the group of founders by one of them specifically, Karl, that was successful in moving the group to embrace this conception that is both a framing and an ethics of putting attention to the natural and social commons, to arrange society and organizations in an according way, away from the extractive logics and behaviors that are causing the climate crisis.

The Commons embracement from FC in this sense was favored by the connection with another socio-technical dimension, the fascination for the affordances offered by the blockchain. As it will be shown, all the founders consider this technology useful and capable of radically changing the toxic aspects of the mainstream economy –centralization, lack of transparency and accountability. The intersection of the Commons and the blockchain gave rise to a new wave of discussion around the use of these decentralization technologies for the empowerment of this movement, as well argued by Fritsch et al (2021) in the paper “Challenges and Approaches to Scaling the Global Commons”, offering socially oriented entrepreneurs as FC founders a framework to experiment with blockchains outside of the mere financial speculative side that

characterize the industry at large so far, and with a serious understanding of the challenges involved with complex systems and complex system design (Fritsch, 2021).

A possible way “out of the rat race”, which FC founders kind of foresee and express without knowing the existing frameworks in this sense, it’s Exit to Community, which we’ll use a reference when dealing with this dimension of discussed possible paths for FC: according to the “Exit to Community - A Community Primer” (Alleyne et al, 2020) E2C is an alternative to the traditional exit to investors -when the founders sell the startup to anybody willing to buy it- but the company or entity’s governance structure in this case it’s transformed into a users/customers/workers owned entity, giving to stakeholders formal decision rights to its operations and participation in revenues. Community in this sense means “The group of people who especially depend on a startup—who built it, who are brought together by it, and who are the ones most impacted by it. There may be several such groups, such as workers, users, workers-who-aren’t-being-recognized-as-workers, client businesses, artists and artisans, suppliers, and—yes—even investors, as long as they keep some perspective” (Alleyne et al, 2020).

The next chapter on methodology will illustrate how this literature is mobilized in the interviews realized for the research work.

Chapter 2: Research Methodology

In the first chapter a body of literature and considerations have been shown that provided tools for interpreting the data and texts collected, while at the same time influencing the lenses through which the interviews have been conducted. The hypothesis of this research is that FC is combining a series of previously uncombined elements (see image 1 below), offering a new model for a different and positive approach to "innovation" for European innovators and inspiration worldwide, and this also points to why this has been considered sociologically interesting.



(Image 1: Innovative elements of Free Circle according to the hypothesis, synoptic view)

The research has been realized in the context of my five month Erasmus Traineeship in Liechtenstein, from April to August 2022, in the office of FC. The bulk of the empirical material is constituted of a total of 10 semi-structured interviews conducted online due to the high mobility of the individual founders, not all located in Liechtenstein and/or almost never physically present in the office, which mostly dealt with the bureaucratic side of things and has been quite inactive during my permanence period. My work for FC in the context of the Erasmus Traineeship has consisted in supporting their work processes online, helping with logistical and bureaucratic issues, network stakeholders curation, research and building up the thesis design/background, which evolved a couple of times before being set in this current format.

Access to the field was possible thanks to existing professional connections and experiences, in the context of which I got to know two of FC founders and established trust with them.

FC founders at the time were 5 and unfortunately the only woman of the group was the one not speaking English; only German and Czech, the main language of the group when no English speakers were present. I proposed a mediated interview with the woman and another member of the group, but it has been difficult to obtain the time of these very busy professionals for hours of interview, so the mediated interview did not take place.

Three interviews each have been conducted with two founders, Mark the formal CEO and Karl, two with Eric (which is a collaborator and not a core founder but I had the chance to interview him and it was deemed fit to add to the analysis as he enjoys working in FC a lot and thus embodies the ethos of the group), and unfortunately only one with Anthony and Joel, the entrepreneur at the core of the group which was the busiest of all and very hard to reach even just for one interview.

The interviews were in-depth, semi-structured, in slots of one hour, and covered a series of main points listed below, but always favoring the spontaneous flows of discussion as

they emerged. The first interview of each founder focused on the individual more than on the project and touching these aspects:

- Socio-economic and biographical background, mostly the educational and professional experiences but also some elements of sociological contextualization - context of growth, parents, class and status.
- Conception of innovation and of technology, as well as the relationship between both concepts.
- Conception of the Silicon Valley, if they considered it overall a positive context or not, their feelings about this world, about the famous tech-founders.
- Conception of blockchain technology, of the crypto industry, of the promise of decentralization.

While the second and third interviews focused on the description of FC's aspects as an organization, its history so far, its operations, its vision, particularly interesting situations of the past, controversies among the members; only in the last interview were the founders confronted explicitly with the research hypothesis.

The methodological literature adopted to inform the interviewing practice is mainly "*Centrato e aperto. Dare vita a interviste dialogiche*" by Salvatore La Mendola (2009) providing an ethical and methodological framework for interactions with subjects participating in research activities that aims at considering them people and not just research objects.

In the period this work has been conducted (June to October 2022) FC didn't have a formal organizational structure yet, and it exists informally -the company has been registered and the website created, but no meaningfully structured operativity- as a loose network of professional and existing or emerging companies. This phase is particularly interesting as it is possible to reconstruct the narratives and realities of an ecosystem in the making, in a crucial moment -design and informal beginning of operations- and before the solidification of organizational and cultural structures.

The substance of the business activities is interesting too for an STS perspective as it includes different economic sectors all approaching the challenge of “sustainable innovation”: green AgriTech, sustainable fashion, 3d printing, localization and decentralization of production and consumption.

In terms of data privacy and confidentiality, a document signed by the researcher has been provided to the interviewees guaranteeing that the files of the digitally recorded interviews and their contents would have been kept private and used solely for the purpose of this research.

The next chapter starts engaging with the research focus and material, first providing a context on Free Circle and then tackling the thematic blocks emerged in the interviews.

Chapter 3: Empirical Materials Analysis

3.1: Free Circle, the business ecosystem

This chapter deals with the interviews and their analysis, but as a first step a contextualization of FC will be provided synthesizing the information gathered during the interviews in this sense and those gathered by the researcher during his engagement with the project and members.

FC at the time of the research work consisted in a loose network of european socially oriented professionals and their companies focused on new sustainable technologies, centered in Liechtenstein, with the aim of becoming a decentralized business ecosystem fostering the transition to a different economy of meaning, cooperation and sustainability. It exists formally as a registered company in Liechtenstein, Free Circle GmbH, with an office in the city which at the time was used for bureaucratic purposes, while the founders constantly move around this place and other areas -Czech Republic, slovenia- according to their individual life and work situations, which will be explained extensively in this chapter.

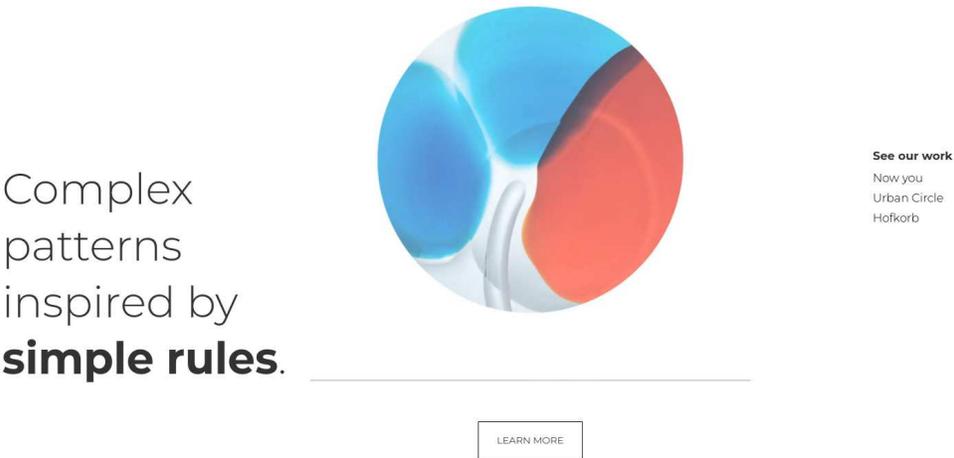
To restate the research question, it is the hypothesis of this research that FC is combining the following set of elements in a novel and interesting way, representing a possible new paradigm for european innovators. Image 1 in chapter 2 provided a visualization of such elements, reported here as a list:

Refusal of Venture Capitalism
Use of Blockchain Affordances
Complex System Design Approach

Collaboration with the Public Sector
Pre-existing Economic Agency
Holistic Regenerative Commons-Centric Economics.
Distributed Localized Production.
Cooperation and Meaningful Work.

Table 1 - Innovative elements of Free Circle in a list

FC is presented in this way on its website¹, which serves the purpose of showing their vision and displaying the companies constituting it:



Their core “principle”, the first thing one can see opening the website, is: “Complex patterns inspired by simple rules” which points at the search for basic elements of cooperation among different entities despite the will and challenge of embracing complexity, which often comes out in the interviews. The second heading is “community of founders, creators and engineers.” which makes it clear the entrepreneurial drive, the creative attitude and an orientation toward rational design of processes, both

¹ Free Circle’s website: <https://www.freecircle.li/>

technological and systems-wise. “Free Circle is meant to be a medium for creative potential and realization of the members within. Its operations are divided into projects with shared mechanics and principles. The notion behind creating Free Circle is to create a network of creators who contribute to individual innovative ideas that have profound impact on the environment and human well-being.”

Moving now toward the concrete social problems they want to tackle and how, using their own words:

-“**To ideate against over-production....** Concepts like on-demand manufacturing, and distributed logistics have profound impact on our ideation process. We will relentlessly keep improving the “*no waste*” key metric within our production-oriented projects. Waste in raw materials, space, labor, or management are typical driving factors of this overproduction. The reasoning and justification of this principle must not come from the motivation to decrease costs only, but it must be rooted in our DNA to think of sustainable production methods.”

-“**In the apparel and fashion industries....** On demand production & nano fabrics. As one of the most polluting industries in the world, changing how clothes are produced might impact the environment greatly. Our aim is to foster the development of technologies that allow on-demand manufacturing with use of high-quality nano fabrics that prolongs the product’s lifecycle and allow the waste to be recycled.”

“**...in logistics, and energy sectors.** Local economies, and resource sharing
“Vast experience from the energy trading, and green energy distribution is naturally pushing us to learn more in energy distribution. We aim to develop technologies that allows P2P energy sharing and flexible energy aggregation within smaller or larger communities without a need of a central enterprise. Energy sector greatly influences the quality of the environment, so we thrive to build an infrastructure ready for carbon neutral neighborhoods and cities.”

“through tokenization and decentralization

“We aim to pioneer first practical uses of organization tokenization in Liechtenstein where the legislative allows experiments, as one of the first countries in the world. Our goals are to bring blockchain principles closer to people using practical applications like community currency, or tokenization of goods or enterprise organizations.”

FC wants to approach a broad spectrum of what we could simplistically call “sustainable and decentralized technologies” in opposition to the traditional centralized polluting industrial complex, and “alternative social, economical and cultural practices” in opposition to mass, standardized, consumerist-driven production and consumption of goods. Just to recap the basic technologies and trends mentioned so far: on demand manufacturing, distributed logistics, no waste, sustainable production methods, nano-fabrics, green energy, P2P energy sharing, carbon neutral neighborhoods and cities, tokenization.

Given the centrality of the founders in this project each of them has a specific sub chapter where its profile is analyzed in depth, but a short summary of the FC members (pseudonyms have been used and not the real names) will be now provided for a better contextualization of the project.

-Joel

Without a doubt the most relevant person in the group, he is the visionary entrepreneur that fueled both the inspiration and economic substance of the project. He launched very successful energy-related businesses in the Czech Republic and has a strong internal drive for meaningful work and human ethics. All the other founders are fascinated by his vision, narrative and entrepreneurial capacity. The most relevant aspect of his vision and in consequence of FC operations is the strong refusal of speculative-only investments, that makes the project and his struggle to finance business and innovation without Venture Capital very interesting.

-Mark

Formal CEO of FC and responsible of general operations, he worked in the tech sector for almost two decades, but on the managerial/organizational side more than the technical one. His strongest drive is achieving a good work environment where the talents and contributions of members is valued, where the output of work is meaningful, and where people can get out of the “rat race”, working for money and not enjoying neither work or life in general for a lack of purpose and fulfillment; this comes from years of working in tech consulting and development agencies in which the main customers were mostly “soulless” big companies. He co-created FC to deliver good products and services to small companies and projects that are passionate about what they do and aim at doing good in the world.

-Anthony

Working at the intersection of economy and technology, he has long standing experience in a multiplicity of business environments and a complexity system design approach to company operations. He is very interested in innovating the production of clothes through on demand manufacturing and 3D printing, goal of one of the first projects of FC - Now You. Unlike the other members, he is quite supportive of both Silicon Valley culture and shows appreciation of capitalism as an economic system; his interest in FC lies in working in a good environment and doing good for society.

-Karl

The most multidisciplinary member of the group, he started his education with computer sciences and and interest in psychology that later moved toward new economic systems and organizational paradigms; he actively and successfully -at least in terms of collective intention- brought the whole group to reflect around the Commons and non-mainstream conceptions of the blockchain, as well as local and alternatives monetary systems as complementary currencies and mutual credit. He also contributes with complexity sciences approach and system design, and in general with a deep and wide theoretical background. From the point of view of sociology he is the one with the most updated conception of technology and innovation, where most of the other members promote new

or more ethical ways of developing “technology” but often staying on the track of linear models of techno-science.

-Eric

Even if not indicated as a “core member”, he collaborates with the founders and can be considered part of FC. He is a technician working on the software development side, with a strong passion for nature and for the deployment of “useful technology”. He talks favorably around Silicon Valley, and he is working with the project mainly for pre-existing contacts with other members and an interest in building useful and exciting technological services and products.

The companies in the ecosystem

At the time of the research, these are the companies constituting the ecosystem, only the first three are displayed on the website while the others have been mentioned in the interview. Some of them are still work in progress, while others are fully operational and relevant, but the website has not been updated with these yet.

-Now You²: a company focusing on creating a network of distributed, automated, on-demand, sustainable clothing production: “Nowyou.ch is pioneering a unique set of robotics and interactive 3D visualization software to open a new realm of creative possibility for individual fashion designers and small clothing brands, giving them the unique opportunity to unlock themselves from the structure of large-scale fashion corporations where they cannot fully unleash the free spirit of their craft.”

This is not one of the most successful businesses of the ecosystem, according to the interviews it incurred in some degree of failure as “the times were not ripe for this yet”(nota) , but it’s one of the more significant for the project vision and history as FC: in fact, the original FC, started by Joel in 2012, was a company creating high quality

² <https://www.nowyou.ch/>

clothes, both comfortable and elegant, that workers could wear both for biking to the workplace and in the office itself. It then transformed into Now You.

The business started well, won design prizes in fashion contests (“The FC Pilot Collection was awarded the editor-in-chief prize at Designblok Premier Fashion Week '13, and at the Czech Grand Design she won the title of Fashion Designer of the Year and Grand Designer of the Year for Monica Drápalová. Part of it became part of the collection of the Museum of Decorative Arts in Prague”*) but in the attempt to scale it he was faced with the crossroad of either producing them in Asia to keep the price reasonable -but losing quality and local production- or producing them in Europe -with a very high customer price, making it a luxury item- and for this reason it didn’t proceed - then transitioning into this loose network of professionals and projects to try this in different ways.

Comparing the different businesses of the ecosystem, Now You surely represents the most ambitious one -in the words of the interviewees Joel and Anthony, deeply involved with this project- as it aims at “disrupting” an entire industry with technologies and modalities that are quite far from being implemented, not to mention the will to integrate Virtual Reality elements and recent digital technologies that are at best in experimental phase but not an industry standard in any way.

-Urban Circle³: This is the new company brand dealing with the aforementioned line of elegant clothes for biking and work, the original FC, but from the interviews it seems like it is not something so relevant for Joel or for the group anymore; it was never mentioned and the website doesn’t allow to buy any clothes, it is probably not an active branch of the ecosystem at the moment.

-Hofkorb⁴: a company with the aim of connecting local farmers and consumers in Liechtenstein, implementing a set of different socio-technical innovations. “Hofkorb

³ <https://www.freecircle.li/urban-circle>

⁴ <https://www.hofkorb.li/>

connects local farmers and their customers in Liechtenstein and Switzerland. We have built a ready-to-scale digital platform which handles the whole lifecycle from adding and managing the product into a product catalog (Farmer Mobile Application), advertising and selling it on a storefront (responsive e-shop), through warehouse management system to delivering it (smart last-mile logistic system) to the end customers. We have participated not just in the development of the product but especially in defying the product itself and the internal processes of the whole business.”

This is an important business in FC, one of the first to be attempted in this ecosystem light, by Mark, Joel and Karl in Liechtenstein; despite being operational and a kind of success, it encountered some problems on its way.

It is far from implementing all the innovations it aims at, but it is one of the projects that could best incorporate all the innovative elements indicated by the hypothesis if fully developed in that way: it involves almost every local stakeholders -individuals, businesses, the local government which they are speaking with about it-, disintermediate, decentralize and localize the food supply chain aiming at making it more ecologically sustainable as possible, has no profit intention despite empowering all economic actors involved, could implement blockchains for governance or monetary purposes, engage with recent technologies in multiple ways (“mobile application, responsive e-shop, smart last-mile logistic system”).

-Javorina⁵: a successful 75 years old furniture and fixtures manufacturer and seller cooperative in Slovakia which Joel financially acquired in 2022 to implement new technologies in the direction of making production more on-demand and automated as possible. It is not formally a company under the umbrella of FC (it’s not listed in FC website) but given the looseness of this ecosystem it makes sense to list it here, as for all the founders involved it clearly is a piece of FC.

⁵ <https://javorina.com/>

-Nano Energies⁶: energy-related technological services provider company, founded in 2007 by Joel in the Czech Republic, now an international company in five countries with a turnover of 116 millions. It is not the first successful company of Joel but surely the most significant in terms of its vision of changing the economy, dealing with the digitalization and decentralization of the energy sector toward a more sustainable system, as indicated a core element in FC vision.

-Bluelight Investment Fund⁷: an investment fund founded by Joel and others in 2018 -after the millionaire selling of its first company, producing electronics, Jansen Display- meant to invest in “companies and projects that live a vision of environmental sustainability and human well-being”. It is formally the investment vehicle of Joel and we could say of FC, as the majority of the companies listed here appear as projects in which Bluelight invested in (Nano Energies, Javorina, Now You, FC itself).

The following section will provide an overview of what emerged from the interviews, recurring elements and similarities, while the next one will tackle in depth every one of the thematic blocks making sense of the perspective and narrative of every founder.

3.2: Interviews Overview

An overview of the interviews has been deemed useful to make sense of the group as a group of individuals, before considering the group as an organization, with its own characteristics and as an emergent whole (FC); similarities will be covered first, then passing to differences and other observations.

Similarities in FC founders’ life and perspective:

⁶ <http://www.nanoenergies.group>

⁷ <https://www.bluelight.li/>

-Ethnicity -eastern Europe- and professional background -traditional for profit business environments, in the tech sector. Except for Eric, who is very young (24) but not a core founder, all the others are white men ranging from thirty to forty years old.

-All of them have launched a digital service startup project in their twenties (delivery app for restaurants, app for pregnant mothers, app for p2p psychological support, electronics business) and all of these failed except for Joel's one. Four out of five of the founders were avid video games users in childhood.

-Long, varied work experience and multidisciplinary profile, either by competence, sector, or both, but mostly in business environments.

-A clear and explicit will to "do good", and to develop useful, meaningful, interesting technology and businesses, in the direction of a change of paradigm, away from the traditional consumerist destructive industrial economy to a solidaristic creative and sustainable one.

-A clear and more or less developed aversion for the most extreme aspects of the current economic system and business practices (hyper-financialization, profits without meaning)

-A positive and optimistic view of technology, especially for what regards blockchain technology and its promise of decentralizing existing power structures in economy and society at large.

For what regards the differences among the members, every founder bears peculiar traits or perspectives that gives a minimum amount of diversity to the group, but in general the interviews give the impression of speaking with a set of people that is quite aligned and homogeneous. Despite the group of founders being 80% male (as already mentioned, the woman founder couldn't be interviewed due to language and access problems) the gender issue has never been mentioned in any of the interviews, and it won't be taken in consideration.

There are not so many interesting peculiarities among the members which are worth to mention, but the following can enrich the picture of the group:

-Joel and Mark constitute the entrepreneurial/managerial side of the group, Anthony and Eric are the technically proficient members, Karl (and Anthony as well) the ones providing theoretical or intellectual backing to the project vision and strategy.

-Karl is the person responsible for bringing the whole group to discuss around the “perspective of the Commons”, successfully in terms of intentions and narrative but with little concrete implementations so far. The others have never been exposed to this element before.

-Anthony is the only explicit defender of “capitalism” as a political and economical system, while the others seem generically but superficially against this or its excesses, as hyper financialization and greedy speculation.

-Joel gives the impression of being at a different level than the others due to its visionary elements backed by an incredibly successful entrepreneurial career, while all the others feel like they are on a similar level of experience and status - professionally speaking.

The next section examines every thematic block tackled in the semi-structured interviews in depth, to analyze the interviews in detail and provide the building blocks of the hypothesis discussion in chapter 4.

3.3: Thematic Blocks

Before starting to examine the single thematic blocks, it's important to consider that these individuals are practitioners of innovation, not theorists. What their words can express is limited, most of them never problematized these dimensions, and it would be much more interesting to conduct ethnographic studies in their day-to-day work, going through their

decisions in terms of business strategies and product development, but this research had limited resources and thus the discursive dimension has been chosen despite its shortcomings

Innovation and technology

As indicated in the first chapter, innovation has been chosen as the semiotic umbrella to communicate with the founders, despite its vagueness and the problems it carries as a concept, and thus it's a significant element in the discursive analysis. In this section innovation and technology are dealt together as often they clearly were considered the same thing by the interviewees; despite this distinction being clear for the interviewer, it was deemed not useful to recall it to the speaker, as for them it's just a conceptual difference.

First of all, all of the founders share an unproblematized view of innovation as a positive element for society, as the scientific literature backing the research indicates (Gold, 1969. Godin, 2006, 2017); a lot has been said about it in the interviews, but no shade of questioning this assumption emerged. In their view, problems in innovation are more related to the interaction between this and the financial aspects, when money enters the game. Another assumption of the group which is very popular in today's common sense (Godin, 2006) is that innovation and technology are basically the same thing (Eric: "Innovation is technology"). This is quite obvious if we consider that all the founders come from the technological sector and always worked with technological products or services.

But despite this, most of them don't speak as naive or simplistic techno-optimists, and it would be unfair to say that their conception of innovation is strongly techno-centric. They understand that the values and mindset of individuals play a crucial role in shaping the direction of innovation and its impact on society. Joel and Mark are not technicians but managers of technologists teams, they work on the multitude of non-technical aspects

involved in developing technology, and are thus very vocal about the organizational and cultural aspects of innovation processes.

Anthony and Karl speak of innovation from the perspective of complex systems and it's clear that they consider many aspects in their efforts to carry on what they consider good innovation. Most of them though express a view of innovation that is focused on individuals and the "mindset": for them there are "innovative individuals" which have some kind of special gift, the "ability to connect previously unrelated things in original ways", interesting visions of the future and crazy ideas, that have to be matched with those people who instead are good executors with feet on the ground. It's also clear though that "the magic comes from the cooperation of talents", as expressed by Joel, and FC as a project reflects this conviction: a "creative, healthy, joyful, free" -meaning with this voluntary and non-coercive- environment is crucial to deliver meaningful innovation.

Despite the aforementioned limitations in verbalizing all this for practitioner, and despite a sort of underling "linear model of innovation"* being present in their speech and untolds (innovation = research and development->technology production->market diffusion) they all have a pragmatic understanding of the complexities involved with innovation processes, of how difficult it is to "change the system" in this sense, due to historical, cultural, social, organizational, power dynamics that make "innovating" so hard. Having to choose if putting them in the linear or non-linear paradigm of innovation, for the sake of categorisation in the context of this research, it seems clear they should belong to the non-linear side; despite their average discourse belonging more to the first, their efforts concretely embody the non-linear paradigm.

Overall, they embed in different ways all the European trends mentioned in the literature chapter - design-driven, social, public, responsible innovation - as they are vocal about the purpose and meaning of innovating: to make people live better, to solve social problems, to change the system, and not just to create powerful efficient technologies or make money out of them. Their playing of the game of business and markets is seen more as a necessity than something positive in itself, most of the time money and excessive

financialization is seen as the main constraint in “delivering good things that people want”, as the majority of the people is caught in what Joel -and the others on his influence- define “the rat race”, having to work all day in boring and unfulfilling jobs in order to afford things they don’t need”, leaving life and their favorite activities for the free time. In this sense FC is seen as a vehicle to innovate for good, combining market success (with useful innovations) and creative fulfilling work environments.

FC founders thus have a favorable and not very problematized conception of technology as well, considering it a powerful force in society that can and should be used for the good of humanity and the environment. Their “sociological vision” of what is technology has not been dealt with extensively, because as was mentioned before these founders are practitioner, but if we examine their discourse in the light of STS literature it seems like for all of them (except for Karl) the underlying conception is the classical one of technology as a proper and distinct realm of society, which interact with others like the economy or civil society; it’s not conceived as intrinsically embedded in social and historical structures, even if the awareness of values and culture is expressed often and vocally sentences come out that signal an evolutionary, linear, objective and progressive view of technological development: bits like “technology was not there yet” “time has to pass for this technology to diffuse” could also be read in a pragmatic view (as if they were simplifying the narrative for the sake of making themselves clear) and with an actual awareness of “social embeddedness” in the speakers background, but having them mostly never engaged with social sciences it seems more likely they just hold a traditional view of technology as something that lives in a proper dimension.

It’s worth mentioning though that despite this traditional unproblematized view, all founders don’t give to technology a primal role in the destiny of society, attributing both explicitly and implicitly much more importance to moral values, social relationships and human cooperation than to the power of technology in itself: Joel: “technology alone won’t save us, it’s just an extension of our human capacities, and these are related to the cultures and philosophies we embody”.

Silicon Valley and Venture Capitalism

During interviews with the founders, they were asked about their thoughts on Silicon Valley. None of them is particularly excited about it and outside of the question it's clearly not a strong reference in their narrative, being mostly associated with the problems of Venture Capitalism (VC) that will be now analyzed. For instance, Mark shared a negative experience where a potential partner was only interested in making money and wanted to approach the partnership "Silicon Valley style"- a description of that episode is provided in this section further on . Only Eric held a positive view of Silicon Valley and even aspired to be like famous tech billionaires such as Elon Musk in teenhood. The founders are not so vocally critical about it either, it's just a model and a world they don't recognise themselves into.

On the other hand, the founders were quite vocal in their critique of Venture Capitalism. This defining feature of the Silicon Valley Model involves high-risk investments in emerging technological startups, with a focus on achieving high returns in a short period. Venture Capitalists are typically investment funds, representing a small fraction of the largest funds' investment portfolios, with most of the portfolio comprising a majority of lower-risk assets and schemes. This model has funded many world-renowned tech companies such as Google, Facebook, Uber, and basically all the most used apps in the western world today (Luise, 2019).

VC is criticized by FC founders for similar reasons is criticized by a growing multitude worldwide (Luise, 2019), as it prioritizes quick financial returns over long-term sustainability and societal impact. Investors may pressure start-ups to prioritize profitability over developing a sustainable business model, which can result in unethical business practices, exploitation of workers, and negative environmental impacts. Joel and Mark, the ones dealing with financing and entrepreneurial strategy, had numerous first-person experiences in which the pressure from investors made otherwise successful and meaningful projects to fail or distort for worse their original plans, devoting them of creativity, freedom and meaning.

This is a central point in the FC ethos, as the project's main goal is to find a way to finance and develop innovative businesses that are successful and sustainable in the market without getting caught in the aforementioned "rat race", which in this specific facet means to be trapped in the game of maximizing profits at the expense of all the other dimensions. To Mark in fact "it's not difficult to make money with a business, the difficult thing is generating meaningful work and doing good" and "when a huge investor joins the game usually it generates a rat race situation and meaning is lost". He quotes a couple of episodes in which companies that were actually providing a useful and appreciated services were forced to close as the revenues were good but not enough to guarantee the agreed returns to investors, as it happens routinely in Silicon Valley (Birch, 2017).

Furthermore, Venture Capitalists usually demand the company to have global plans and scale, to maximize the customer base and thus profits, while in the experience of Joel it often happens that companies don't want this, preferring to focus on a limited area or user base, keeping quality of services and a meaningful relationship with the community. Forcing them to become global is seen as negative both for the will of the founders and the survival of the project, being hard to compete in the global scene. Mark advocate for some kind of community ownership of companies, and as mentioned in the first chapter, this is a framework that a network of founders and scholars worldwide are promoting: the "Exit to Community", where many options exist for the community of workers, users, supporters, investors and any kind of stakeholders responsible for the success of the project to take formal ownership and steer its evolution (Alleyne et al, 2020).

All founders express with optimism their view of blockchain as a set of technological and financial affordances that could serve to overcome VCs schemes, but this point is dealt with in its corresponding section in this chapter ("Blockchain" section).

Also Joel is very critical of VC, despite his long successful career as entrepreneur and investor, and his focus has philosophical and ethical traits, revolving significantly around

the loss of spontaneity, ideas, creativity, joy, satisfaction and meaning caused by the pressure to maximize profits.

An interesting point brought up by Joel is that these predatory investments “kill complexity”, meaning with this the simplification of processes and scopes involved with forcing the company to offer a simple, marketable, standardized product or services, impoverishing the creative flows in the team and in a way the soul of the project.

It's worth remembering here that FC group -mostly with Joel money, and through its financial vehicle, Bluelight Investment Fund- acquires companies when they see a strong potential in them, as it recently happened with Javorina. In their words, they always try to not behave like venture capitalists, making sure growth and financial sustainability is preserved but without pressuring the company too much and keeping quality and satisfaction among workers and customers. Eric, who is involved in the company operations, reports that workers at Javorina are at the moment speaking quite happy with the acquisition. “It's a poor area, people at the moment are happy with the acquisition and they are appreciating the changes which Joel is trying to implement in the operations”

The following episode have been narrated by Karl and Mark and it gives an example of FC founders facing an interesting funding opportunity, renouncing to it because of the fear of VC-like behaviors and lack of purpose in the other person's intentions: a group of investors in Joel's network expressed interest in launching an innovative impact investing platform with blockchain features, Purpose.io. While some investors aligned with Joel's vision, one particular executive, supported by the primary investor, advocated for the immediate launch of a minimum viable product (MVP), to enter the market sooner rather than later.

Despite the potential benefits for FC in participating in this effort -it could have been one of the first projects receiving funds through the platform, and it would have built alliances with multiple wealthy individuals- Joel realized that the conditions were not favorable due to concerns about lock-in and reputational risks, as the group didn't seem

like having a solid and trustworthy stand in the space. Moreover, the executive seemed more interested in raising funds and speculating on new ventures rather than creating social impact. These concerns have been discussed internally among the FC group, with Rob backing Joel's insights, while Karl also expressed reservations about the executive's plans; the partnership and plan have thus been canceled.

Blockchain

FC founders all share an interest for blockchain technology which is interesting in combination with all the other aspects; as noted already, usually economic and political actors in the non profit or cooperative sector don't appreciate nor get involved at all in cryptocurrencies, while on the other side individuals and groups focused on them tend to be techno-optimists with a strong orientation toward profits and markets and little engagement with the world of solidaristic on the ground economy, or to non-crypto dimensions in general (Fritsch, 2021).

As one could expect when considering the interviews reported so far, none of FC founders find any appeal in the speculative side of cryptocurrencies -bitcoin, trading, getting rich- but yet it should be remembered that this is interesting as well, as profiting is the strongest driver for the majority of people in the space, without any doubt the first and main reason of how and why bitcoin got into the media and in the common sense of people. FC members got into the blockchain for its potential in transforming traditional organizational, economic and technological structures, for the promise of decentralization offered by recent frameworks and elements as those of "DAOs" -Decentralized Autonomous Organization, "an entity structure in which token holders participate in the management and decision-making of an entity"⁸ - and "Smart Contracts" -"self-executing programs that automates the actions required in an agreement or contract. Once completed, the transactions are trackable and irreversible"⁹ - allured by the vision of a society with less toxic intermediaries as big banks, big states and big tech corporations,

⁸ <https://www.investopedia.com/tech/what-dao/>

⁹ <https://www.investopedia.com/terms/s/smart-contracts.asp>

while on the constructive side more spontaneous and fulfilling global coordination among peers toward the betterment of humanity.

Technical professionals in the FC group as Karl and Anthony have some kind of meaningful understanding of the technology, while others show a (relative) not so deep comprehension of the practicalities of it, as expressed by some members themselves, and like the idea of decentralizing the organizational and economic processes in FC without previous experience in a proper blockchain environment. Joel and Mark know that a lot of experimentation is happening in the broader space of DAOs, they want FC to progressively move toward a DAO-like structure with decentralized governance -which basically is just a more sophisticated form of cooperative structure- and in the short history of the project so far there have been some attempts in developing a plan in this sense, but it's clear that considering the reality of the project up to now, the blockchain has been a significant element of the vision and the narrative of the collective, more than something practically implemented.

It seems likely that in the near future there could be some actual use of it among the different companies involved in the operations, as blockchain get more and more integrated into the economy, but the hard challenge expressed by some members is that of using these tools to establish a meaningfully democratic governance of FC as the collective grow in size beyond the initial circle of highly aligned founders - as Mark suggests "if we are four people we can discuss about money and duties allocation at dinner around a table, but if more people will join this process has to take some kind of structure, incentives and rules must be clear, so I think a DAO could be what we need in that moment".

An episode worth describing in this sense is when Joel asked Karl to prepare a whitepaper -in the industry, the crucial document for every crypto project describing its vision, values, economics, and technological functioning- for an initial token of FC. Karl was contrary to this for a series of reasons: to him this task was much more difficult than Joel thought, not in his expertise set as it required a long and serious process of

confrontation with specific experts, not to mention making first clear what FC's plans were before and beyond the tokenization aspects - a usual misconception in the industry is that designing a token to raise funds and distribute governance is the first thing to develop, while it is actually the last step in the process of a proper complex crypto-economics system design. Karl reported having used the token conception ("a crypto token is a representation of an asset or interest that has been tokenized on an existing cryptocurrency's blockchain¹⁰") provided him by Pekko Koskinen, the member of an allied project, Economic Space Agency¹¹, consisting in considering tokens as "vehicles of distribution of rights and logics". This approach to tokens in Karl words was effective in bringing Joel away from the idea of just launching a FC cryptocurrency.

In fact, Karl and Anthony, the members more engaged with these technical complex dimensions, know that at the moment developing a full tokenomics (basically the exhaustive economic, financial and technical design of how the token of a project will work) is mostly affordable for big crypto projects with significant availability of resources needed to pay highly skilled engineers and designers, which are very scarce in the market right now.

Open Innovation and the Commons:

As mentioned before, Karl Lanc has been the founder bringing the perspective of the Commons in the group. It's worthy to explain what do we mean here with this expression, as it's not just a favorable orientations towards nature, solidarity and open processes - this is shared by all the founders, vocally, but it's not particularly sophisticated and does not refer to the strong political economy this concept entails and embody.

Commoners (Fritsch, 2021) advocate and mobilize for a systemic change which overcome the degenerative capitalist system of profit accumulation for a few in favor of a

¹⁰ <https://www.investopedia.com/terms/c/crypto-token.asp>

¹¹ <https://economicspace.agency/>

democratic decentralized society which is centered around the care and flourishing of the Commons as nature, non-human entities as animals and plants but also knowledge, culture, digital artifacts and in general the collective human experience. This is seen as a third way between the Nation States system of public property and the market system of private property, as these commons goods have been and could be today managed through the process of commoning: the community of stakeholders around a Commons -a piece of land, a river, an open source software, a library. work as its steward, not its owner, and rules for its governance are developed together (Ostrom, 2015).

Karl had a years long experience in engaging with the alternative economy -movements and projects trying to make the Commons a reality in the economic dimension- especially with the broad field of monetary alternatives: centuries before bitcoin, there have been plenty of experimentations historically with mutual credit and community currencies that continue to these days in all sort of forms - small scale systems, international networks, with or without the blockchain, with different economic and political backgrounds; a good number of these experimentations and projects is displayed in the aforementioned work of mapping “*Post-Capitalist Entrepreneurship*” in the section on monetary innovations (Cohen, 2018).

Coming back to FC, in the latest years projects and coalitions emerged in the attempt of using the affordances provided by the blockchain to empower the Commons and its underlying techno-economy; Karl had a deep engagement with one of the most relevant crypto project in the field, Holochain¹² (it’s a very complicated technical project that won’t be described here, especially as FC didn’t engage with it yet) and this encouraged him to bring the whole issue to the group as a possible avenue to take advantage of the blockchain without the speculative toxic aspects of it that characterize the industry at large.

Another important occasion Karl mentioned that allowed him to iterate this perspective to the group was the event “Crypto Commons Gathering 2021” in Austria, where him and

¹² <https://www.holochain.org/>

Mark participated, a seminal event that sort of activated the “Crypto Commons” movement - a small global niche of people, activists, professionals and projects engaging with the blockchain from this cooperative and solidaristic angle.

In Karl words (adding to the mix the Viable System Model framework¹³): “I think the Commons is part of the solution [to the current systemic crisis], it can start interfacing with the existing system. For me this is part of my vision. Metaphors and language of the Commons allow us to reimagine, reframe and think in different ways how society is organized. I like the Viable System Model, for me it's pointing to creating the appropriate conditions, giving more agency, giving importance to the agent living in a specific environment. A lot of concepts are emerging, and they are creating a new language that wasn't present in business models so far I think.”

All the founders except Anthony -which explicitly support the capitalist economic system, and conceive it as compatible with the Commons, perspective which is radically opposite to that of Commoners, identifying Capitalism as the main problem in this sense (Ostrom, 2015)- kind of agree with the Commons perspective but are not particularly articulate in this sense, as practitioners, and similarly to what regards the blockchain, the group didn't have the opportunity to implement these principles in a concrete way so far.

Speaking of Open Innovation, all the founders are favorable to the maximum degree of openness possible in terms of innovation and technological processes, expressing dissent and discomfort with the mainstream system of walled corporate gardens, intellectual property and selfish market competition, a growing trend among professional and companies dealing with innovation (Wisibono, 2021)

The next chapter, point of arrival of the whole description and analysis so far, will deal with the thesis of the research: is FC the pioneer of a new emergent european model of innovation, beyond techno-centrism and the Silicon Valley age?

¹³ https://en.wikipedia.org/wiki/Viable_system_model

Chapter 4: Discussion and Conclusion

4.1: Discussion

In this chapter, the hypothesis is faced and discussed: does FC represent a pioneering European model of innovation, distinct from the prevailing techno-centric and profit-driven approaches commonly associated with Silicon Valley and traditional venture capitalism?

The interviewees have been confronted with this question only in the last interview, to avoid influencing their previous answers on their conceptions of innovation. First thing worth noting is that none of them conceived FC in this light, as a particularly interesting new configuration, despite all of them acknowledging and appreciating single aspects of the list

A recap will be now provided of what have been considered these different elements of FC approach that combined show the configuration of a possible new paradigm, as it was already visually represented in image 1 in chapter 2:

1. **Refusal of Venture Capitalism:** FC's founders consciously reject the traditional venture capitalist model that emphasizes intensive financial speculation and rapid growth. Instead, they strive for a sustainable and socially responsible approach to business. By refusing venture capitalism, FC seeks to create an economic environment that prioritizes long-term value creation, social impact, and community well-being. This approach sets FC apart from the mainstream startup industry, which often relies heavily on venture capital to drive growth. By eschewing profit-driven financial speculators, FC aims to establish a more equitable and inclusive economic ecosystem that fosters collaboration, innovation, and sustainable development.
2. **Use of Blockchain Affordances:** FC is willing to embrace decentralized technologies as a key component of its innovative ecosystem. By leveraging blockchain's digital ledgers, FC aims to facilitate secure and transparent transactions, bypassing the need for intermediaries. This has the potential to

revolutionize economic and social interactions, enabling greater trust, efficiency, and inclusivity. Through the use of blockchain, FC pioneers novel organizational and financial models that empower individuals and communities to participate more directly in economic activities. The inherent properties of immutability and traceability offered by these affordances align with FC's values of accountability, transparency, and integrity, creating a foundation for responsible and ethical business practices.

3. **Collaboration with the Public Sector:** FC's collaboration with the government of Liechtenstein exemplifies its commitment to creating a supportive local ecosystem. By working in partnership with public and private stakeholders, FC aims to co-create an environment that nurtures innovation, provides regulatory clarity, and fosters meaningful collaborations. The engagement with the government reflects the recognition that effective innovation also requires a favorable regulatory framework and cooperation with policymakers. By building bridges between entrepreneurs, policymakers, and the broader society, FC strives to create a fertile ground for sustainable and responsible innovation.
4. **Complex Systems Design Approach:** FC embraces a complexity sciences-driven approach and leverages complex system design techniques to address the multifaceted challenges of innovation. Rather than viewing technology as the sole driver of change, FC recognizes the importance of organizational dynamics and social interactions. This holistic perspective acknowledges that complex problems cannot be fully solved by technical tools alone but require systemic thinking, collaboration, and adaptive approaches. By applying complexity sciences to organizational design and decision-making processes, FC seeks to unlock new possibilities for innovation, creativity, and resilience. This approach enables FC to navigate the inherent uncertainties and interdependencies of a rapidly changing world, fostering agility and adaptability within its ecosystem. Through embracing complexity, FC endeavors to create an environment that thrives on diverse perspectives, emergent patterns, and collective intelligence, leading in their opinion to more robust and sustainable innovation outcomes.

5. **Pre-existing Economic Agency:** FC benefits from the availability of capital and well-functioning businesses within its ecosystem. This financial support provides the necessary resources for experimentation, research and development, and scaling of innovative projects. It creates an environment where entrepreneurs can access the capital they need to bring their ideas to fruition, without being solely dependent on traditional venture capitalists. The presence of well-functioning businesses within the ecosystem further enhances the support network, as these enterprises can provide expertise, mentorship, and potential collaboration opportunities for emerging startups and projects.
6. **Holistically Regenerative Commons-Centric Economics:** FC's holistic regenerative economics approach emphasizes the interconnectedness of economic, social, and environmental systems, and the centrality of the Commons in every choice. By considering the long-term impacts of economic activities on the well-being of individuals, communities, and the planet, FC seeks to create economic models that prioritize social equity, environmental sustainability, and community resilience. This approach challenges the narrow focus on profit maximization prevalent in many traditional business models and embraces a broader understanding of collective wealth creation that goes beyond financial metrics and has the Commons as first element of consideration..
7. **Distributed Localized Production:** By promoting distributed and localized green production, FC aims to reduce the environmental impact of economic activities, minimize carbon emissions from transportation, and strengthen local economies. This approach fosters self-sufficiency, resilience, and the creation of high-quality, sustainable jobs within communities. It encourages the development of local supply chains, the utilization of renewable energy sources, and the adoption of eco-friendly production methods, contributing to a more sustainable and regenerative economic system.
8. **Cooperation and Meaningful Work:** FC places a strong emphasis on cooperation and meaningful work within its ecosystem. By fostering a collaborative culture,

FC encourages individuals and organizations to work together, share knowledge, and co-create innovative solutions. This collaborative approach not only enhances the quality of ideas and outcomes but also creates a sense of purpose, fulfillment, and well-being among participants. FC recognizes that meaningful work is essential for individual flourishing and social cohesion, and thus seeks to create an environment where individuals can contribute their skills and passions towards common goals, making a positive impact in terms of their individual aspirations and for their communities.

Before moving to what the founders expressed when presented with this framework, it's worth pointing out a couple of considerations.

As already mentioned, this is not a rigorous study giving a strong demonstration that this model of innovation is significantly beneficial or unique, both these attributes would require much broader and quantitative analysis which couldn't be realized here. The claim of this being a new paradigm is based on the current author's knowledge of experimentations happening in this sense around the world - and the lack of something similar to FC- but this doesn't have any pretension to be the truth. And the underlying claim of this being a positive effective model that could lead to better economic practices is sort of subjective as well, as data should be gathered around the outcome of such ecosystems on the aggregate level -and compared to the outcome of other models' results- but this can be done if and when this model is implemented in a significant number of contexts.

Furthermore, even in this FC context all these elements are not really implemented yet: without giving too little relevance to the element of narrative and to intentions, it's been noted already that aspects like the use of blockchain and complex system design are still a plan and not something practically impacting the project. This surely is one of the most interesting challenges of FC, observing -with future analyses- if and how this decentralization and/or tokenization of processes through blockchain affordances will be enacted.

The thesis and the founders

When confronted with the reasons why FC could be considered a pioneering model for European innovators, the most common reaction among the founders is surprise. They know they are doing something different and exciting if compared to their past work experiences in traditional contexts, they are trying to innovate in their individual area of expertise, but they don't have a full picture of all the elements which concurs to shape the ethos and practice of FC. Karl says "Your framing made the picture of what could it be, and how could it be approached, much more comprehensible and coherent".

"It's quite surprising to me, FC to be a pioneer" says Mark, adding "I was hoping there would be more organizations like us, and I believe there is and we just don't know about them- and in my hope this is the future of how people cooperate together - so on one hand it sounds nice that we may be one of the firsts, but we would be much happier if this would be standard and normal. Happy to see this change happening and to be part of it" as indicated denoting some sort of self perception of being different in a good way and to represent a model for the future of cooperation among people.

Joel, the visionary, is the one showing the strongest conviction and the richest perspective on how the economy is changing, which direction of change should be preferred, and how FC is attempting at moving in that direction "we are in the middle of the transformation, as a society, it's easy to dream about the new system but its difficult to create a functional one in reality, because the environment is not ready for that. We have to work at a pace which is in sync with reality" and also "...a new economy: new structure for business, decentralized, where you don't feel a shareholder, but as part of a big circle"" but didn't articulate the single elements as presented by the author, finding this framing interesting and useful.

This aspect of working "at the pace of reality" is shared by others as well, and appreciated in its perceived utility in actually generating positive change, also as a way to avoid falling in the profit trap or as we called it many times now "the rat race"as Eric's take on it suggest: "for the moment I see that you need to keep the revenues streams going and not do a radical transformation that disrupt the organization too much, impact is not large at the beginning, you start by optimizing things in a way that more

transformations can be done, incrementally. We are building new revenue streams with companies that wanna do cool things and this is real, but ecological impact for example is not so different yet. It's a step-by-step process."

This has never been framed in this way by the interviewees but it's interesting to note that this approach of incremental, evolutionary, adaptive modifications to existing systems is not only in line with the mentioned "complexity" approach of the whole group, but also a radical difference in respect to one of Silicon Valley popular slogan: "move fast and break things" (Luise, 2019) meaning with this the entering new markets fast, aggressively, with innovative technological solutions aimed at destroying the old style companies inhabiting them.

Continuing in the comparison between SV model to innovation and FC, we can observe that while this rapid disruption advocated by the first also implies sudden destruction of present jobs -which in the narrative are just substituted by the new jobs offered by the new technologies, for people who are willing or capable to adapt (Luise, ibidem)- in this scenario workers are considered important element of the productive process, and improvements in the companies involved with FC are promoted with them, not despite them, and another goal of the project is to regenerate depressed areas when it's possible. Eric reports for example that "It's a poor area, people at the moment are happy with the acquisition and they are appreciating the changes which Joel is trying to implement in the operations``.

There are a good number of elements that the SV model shares with FC -both in the present and in terms of intention- and surely the founders were influenced by it in their path: the entrepreneurial mindset, the creation of technological clusters and collaborative ecosystems, an iterative approach to innovation. Dimensions that are becoming almost common sense among professionals and policy makers and that were popularized on the base of Silicon Valley's perceived successes (Luise, ibidem). Furthermore, the same investors that generated the current tech billionaires, are also financing the blockchain startups and infrastructures based on the promise of making the economy more efficient and decentralized, a trend now called web 3.0 in comparison to the previous stage - the

web 2.0 of centralized tech giants as Google, Facebook and Amazon (Wan, 2023).

For these reasons it would be easy at a superficial glance to consider FC as one of the many variations on the canva of what SV brought to the world so far, but it's been shown many times now that the differences are quite more relevant than similarities and that FC as a project is really an attempt to get out of what they consider the toxic element in the mix: Venture Capitalism. Generating meaningful innovation without greedy investors corrupting the process, accumulating power and money at the expense of all the other stakeholders, escaping the “rat race” and the foundational logics of our economic system so far. The blockchain is thus seen not simply as a new market trend to monetize, but rather the opposite as a possible technological and economical affordance that could lead to new avenues of financing and governing innovation in a democratic and non extractive fashion, giving economic power to innovators on the ground and to the general population.

If with this we move to a comparison between the blockchain industry's model of innovation and FC, we find little similarities beyond the point that was just mentioned of the promise of economic and financial democratization. Drawing on Fritsch's article (Fritsch et al, 2021) the author here supports critics's claim of the space: “rather than constituting a commons-oriented project geared to satisfy societal needs, the Bitcoin network (and the industry in general I add, even if it's too simplifying to just extend this to the whole space) is emblematic of a new, distributed kind of capitalism that utilizes peer-to-peer infrastructure for the generation of private profits” (Bauwens, 2014). And also “Kostakis and Giotitsas (2014) likewise challenge its characterization as a commons given its embodiment of “ideas drawn from a certain political framework” – i.e., anarcho-capitalism based on the Austrian School of Economics – that promotes scarcity and competition and thus serves to aggravate rather than ameliorate the over-accumulation of capital and accompanying social inequalities that characterize the neoliberal era.” (Fritsch *et al.*, *Ibidem*).

In this sense, as it was already indicated, Karl, the founder that brought the Commons to FC and the commons-oriented applications of the blockchain - “I was trying to relate it

(FC framework) to some Bauwens-like P2P commons concepts, some complementary currency framing, or, Holochain inspired current-see design framing, also some Token Engineering inspired - and therefore Platform Design Toolkit inspired - value flows mapping.” and the others are critical of the profit obsessed tendencies in the industry now and the fact they are focusing on real projects on the ground, existing companies facing specific problems- is already a great differentiator as most of the current blockchain projects tackle issues that are self referentially oriented toward problems of the industry itself - optimizing digital financial infrastructures - and still lack a connection with the traditional economy (Fritsch *et al.*, *Ibidem*).

It's surely true though that as was mentioned before, the concept of DAOs and the framing of a decentralized economy is a strong element in FC imaginaries, and the founders foresee the evolution of the project much more as a big distributed DAO than as a globally scaled startup. But coming back to the thesis and to the originality of this business ecosystem, a configuration and a window of opportunity as the one that these founders have is not seen anywhere in the blockchain space.

Considering what we could call the “radical alternative economics” space, and taking the projects mapping work *Post-Capitalist Entrepreneurship - Startup for the 99%* conducted by Boyd Cohen (Cohen, 2018) as a reference, displaying a vast variety of emerging innovative projects in the world, one thing is clear: the vast majority of the projects mentioned are either dead or still not constituting a “functioning business”, which as indicated it's what makes FC so interesting. While this is true for the edges of democratic radical economic experimentation -and a reason why the author spent little time in this area- the “cooperative movement” -the various forms of workers and consumer cooperatives of the world- is instead a significant and established component of the global economy.

FC shares some relevant elements with this legacy, first of all of course the orientation toward cooperation both in the culture of the ecosystem and in the governance structure - despite being a normal for profit company, the founders want to create something that is either a DAO or a cooperative, where decisional power is formally distributed. The

definition of what a cooperative is, and the seven principles of the cooperative movement, both displayed in the website of the International Cooperative Alliance¹⁴ are all resonant with what we have learned of FC so far and all of the founders would agree on every one of these aspects: “...a cooperative is an “autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise.” And the seven principles: “voluntary and open membership; democratic member control; member economic participation; autonomy and independence; education, training and information; cooperation among cooperatives; concern for community.”

The founders don't reference the cooperative movement often, as it's not something that belongs to the past or present of their national system (Czech Republic) but they are definitely favorable toward it.

Despite its successes and its aliveness worldwide, the cooperative movement's contemporary challenges -and its relative scarcity in comparison to non-cooperative business forms- are numerous (Mannan, 2018): “The most common reasons attributed for their relative scarcity are acquiring start-up capital, workers' apprehension about not being able to spread their investment risk, the risk of absenteeism and free-riding on the efforts of other workers, the inability to meet the high ideological and economic expectations set when the LMF (labour managed firms) was formed, and a perceived tendency to ‘degenerate’ into KMFs (capital managed firms)”.

FC economic capacity solved the problem of “start-up capital access”, the collective investment risk is spread among a set of companies, and regarding the last issue that's a significant risk for FC as well given that as we mentioned, the group does not have clear answers on how to transition from a small group of individuals to a large network of economic agents without losing the qualities that this initial configuration entails. Despite this, an interesting aspect of this circle is that all these professionals have had the opportunity of getting wealthy in the traditional economy, and in their words “it's not difficult to make money with a business, the difficult thing is generating meaningful work

¹⁴ <https://www.ica.coop/en/cooperatives/cooperative-identity/>

and doing good” (Mark) so that this intrinsic motivation and the lack of interest for money in itself seems like a promising antibody to the degeneration into a non-democratic profit-seeking project.

This supports the author's claim of FC being a pioneer also in reference to this space. The ecosystem takes the best aspect of the cooperative movement we mentioned, but it's well positioned to overcome the limitations currently faced by the average worker cooperative and is tackling innovations that the movement tends not being politically interested nor competent enough to embrace, as the blockchain, or technological solutions in general (Mannan, *Ibidem*).

4.2: Conclusion

The research work tried to argue, with a good number of limitations and biases that makes this thesis very much an introductory work, that the Free Circle experiment is original and promising in terms of providing a new framework for european innovators to adopt as an alternative to existing patterns of business practices; it takes the best from existing traditions like the cooperative movement and recent significant trends like the Silicon Valley startup model, it's willing to engage with novel affordances like the ones offered by the blockchain, and it seems solid in terms of delivering a significant portion of what it promises, grounded on an existing ensemble of functioning businesses in different sector with a good availability of capital. The next phase of FC development is surely very interesting and crucial to confirm this hypothesis, as it will entails the first implementations of blockchain technologies with complex system design and the desired enlargement of the founders circle; two challenges that pose significant threats to the preservation of the founders values and claims, of a democratic and effective governance structure, and that according to this work represent what is missing to properly be considered a practical complete implementation of this model which visions and promises are so ambitious and inspiring.

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