

Glaizer Group Technology Generator®: the architecture of innovation

A case study of interaction between innovation know-how and architectural design

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Glaizer Group from the start

Glaizer Group defines itself as a global actor of innovation. In today's highly competitive environment, its ambition is to promote technological innovation, guarantee of success and growth. Its pluridisciplinary and multicultural teams work alongside idea sponsors to launch innovative start-ups. This Paris-based Innovation Agency develops two main types of activities: operational consulting and technological leap creation. It was founded in 2003 by Steeve Augoula and Jean Garnier.

Working at the time for a telecommunication start-up of the net economy, both founders agreed on the growing importance of knowledge and innovation for developed economies. At the same time, they were very aware of communication difficulties between research labs and SMBs.

On this basis, Steeve Augoula developed an innovation management methodology, which is in itself an innovation. Exploiting his research work in mathematics and an extensive knowledge of innovation, the methodology orchestrates all the operations needed to bring an idea to a market and maximize its potential. These operations include applied research, competitive intelligence, technological developments and strategy definition.

Our goal here is not to describe this methodology in great details. We will focus on the structure developed by Glaizer Group to host its human resources, the Technology Generator. Glaizer's methodology gives a great importance to

interpersonal relationships, to create opportunity for knowledge spillovers and increase personal and organizational creativity. Moreover, the Technology Generator is defined as the fusion of five professional centers:

- A business center: technology transfer and valorisation center
- A pluridisciplinary research center
- A competitive intelligence center
- A financial and investment center
- An incubator

Resources in those centers must interact, more or less closely, more or less frequently, depending on the stage of the project they work on. This attention given to interpersonal relationships shaped Glaizer's approach on its development. The rapid growth of the company from its start made it necessary to solve the paradox of remaining creative while the growing number of employees required the company to formalize at least a part of its processes. An in-depth reflexion on human resources management led the founders to consider the physical structure hosting the Technology Generator.

Our goal here is to show how Glaizer Group maintained its identity and its creativity while evolving through very different workspaces.

Evolving through different workspaces

Since 2003, Glaizer Group evolved through five very diverse workspaces.

The early spaces: from an incubator to... a garage!

Steeve Augoula and Jean Garnier created the company close to their previous company. The CEO of the company supported the spin-off and lent a small room with some basic furniture, a phone and a shared Internet connection.

After a few months, Glaizer file has been accepted in a complex of city-managed business buildings in Gif-sur-Yvette (Ile-de-France), close to the CEA and the CNRS laboratories. The workspace was cold and unfit to interpersonal relations. All the companies hosted were isolated in their allocated spaces, even cafeterias were differentiated by levels and without any connections between them.

Although they left quickly, mainly because of the cost of the space, this observation had a big influence on the founders and very much shaped their approach on start-up incubation and spaces dedicated to the emergence of innovation.

In 2005, having finalized its business model, Glaizer Group decided to move to the showroom of a Renault car seller. The place was closer from Paris, with easier access to transportation, which proved to be an asset when recruiting new resources early in 2006. The space wasn't suited to the activity. However working closely together, the resources were able to bond quickly and by interacting with the founders participated in shaping Glaizer expertise and activities.



Figure 1 - 2006 working time in the car showroom

Transition to the basement

During this period, Jean Garnier started looking for a new place to anticipate the company development. At the time, cost was still the major determinant of the choice, but not the only one. Access by public transportation was an important factor.

As far as the space itself was concerned, size was important, but more so the versatility and opportunities to shape it up. The founders bought an old insurance office, which had been unoccupied for 2 years.

The basement became a 12 cubicle open-space and on the first floor were set up Steeve Augoula's desk and a meeting room, which doubled up as a lunch table. A small kitchen was setup at the back of the basement. It allowed the workers to discuss over lunch and exchange on diverse subjects. It was also at that time that trimestrial switching of places in the workspace was introduced. The objective was to keep creating communication opportunities between people.



Figure 2 - the ground floor and the meeting room



Figure 3 - the 2.50m ceiling basement – with 12 places

As the company was growing rapidly, the founders understood the necessity to take action to maintain the exchanges, as they were key to individual and collective creativity. As we have seen, this action took place on both spatial and management level. It also very much shaped Steeve's reflexion on Glaizer Groups development: realizing creativity would become lost in chaos if the growth should be indefinite; he estimated the efficient size at 50 employees per Technology Generator. This meant creating other TG, in different regions.

The continuing growth, as seen on the below table, required to find a new space.

Date	01-07-06	31-12-06	01-07-07	31-12-07	01-07-08	31/12/2008
Employees	14	13	22	20	28	34

Towards architectural consciousness

Glaizer expansion was strongly dependant on its ability to recruit more people, which meant expanding its workspace. The basement size was limiting the growth, another space had to be rented. Although only 150 meters separated the spaces, this organization showed to be inefficient: resources felt they were put aside from strategic decisions.

At that time, the company had already bought a larger space in Malakoff. An architect, Germain Adell, had also been hired to redesign that space so it would be totally fit to its activity.

It was clear that both the growth and the qualitative transformation of the company into a Technology Generator challenged the usual approach to designing tertiary spaces. Although with a restrained space and a limited budget, the first architectural version of the Technology Generator was about to see the light.

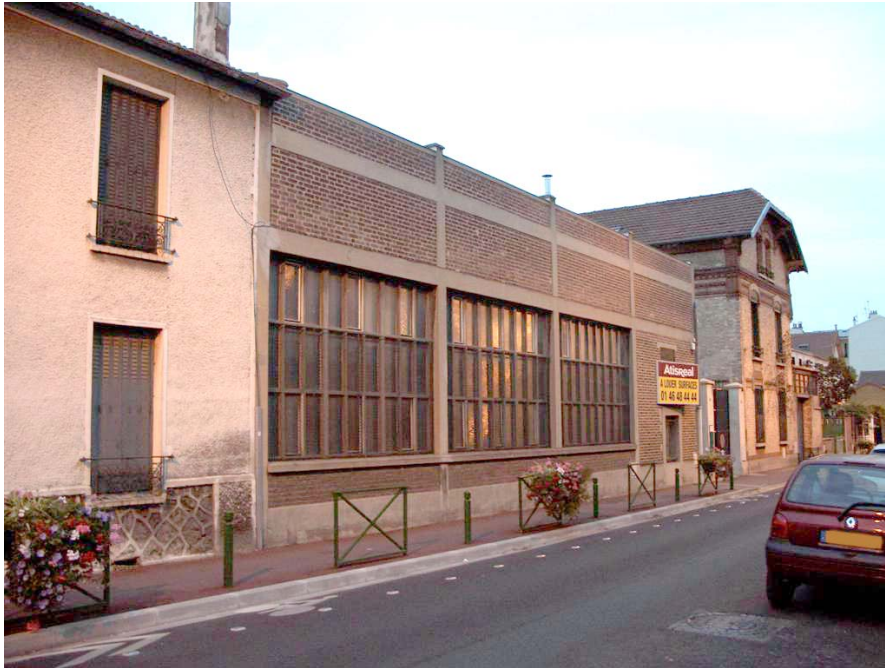


Figure 4 – Technology Generator version 1.0, first shot!

GT 1.0@Malakoff

Managing uncertainty

The interaction and shared experiences in Glazier workspace at Fontenay allowed a very short delay from programming tasks “to be translated” into spatial terms and to become architectural propositions. Empathy had emerged between the different actors of the project: in a way, a really participative project was going on.

The simplicity of the layout of the original building was counterbalanced by limitations in time and a complexity of external factors that in a way “polluted” the whole process and had to be managed in themselves. Namely the property was part of a shared condominium; therefore architectural freedom was out of the question, since everything had to be approved in an assembly of owners.

This explains the fact that we had to manage two different versions of the project at the same time, waiting for the assembly to take place in order to submit the most interesting project, but at the same time developing a second one (less ambitious) in case the first one was rejected. Regrettably, this was what finally happened, although

we already had the city planning service authorisation to go ahead with the original version.



Figure 5 - First project, rejected by the neighbours

These “side problems” becoming central contributed to reinforce an idea that was emerging when dealing with Glazer’s way of working (a controlled creative chaos) and the company limited funding capacity: everything had to be changeable, many solutions could be envisaged at the same time, no aesthetical considerations should prevail over functional or economic considerations, even the building contractors could be switched just before starting to work (which also really happened too!).

Uncertainty was at the time something to deal with, and in the end we understood that managing uncertainty was the innovative way of dealing with the architecture of innovation.

The final form of the spaces was not so important, what mattered more was finally the process of producing it and the implication of the different actors in it. Even

external and volatile actors like building contractors that would do their job and never return could be (as it often happens but in an unassumed and hidden way) a part of the “design and build” process.

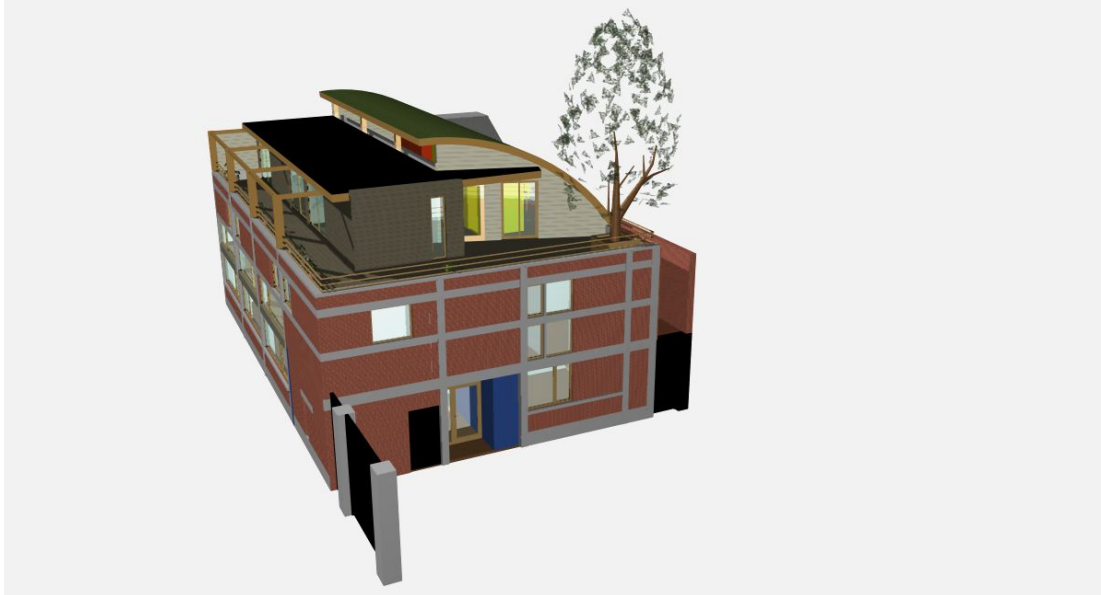


Figure 6 - Another view of the original project, the add-on level on terrace was rejected

Collective work and fuzzy prescription

The final result would therefore be a collective work and, even in subtle ways, this is perceptible. We worked with the idea that creative environments tend to be changing, open, multifunctional, unfinished, informal, all these features represented by the model types of the artist’s studio and the university laboratory¹ .

This was the chance to seriously implement an “open model” of decision-making producing spatial consequences that, in the end, should reflect on the final shape of the workspaces. It was intended to be definitely more consistent than simply copying “google-like” coloured spaces even if we actively used colours as a way of creating atmospheres and characterising spaces and places inside the building.

¹ FLORIDA, R. (2002) *The Rise of the Creative Class*, New York, Basic Books.



Figure 7 – illuminated workspace

Architectural work in France is a highly codified and regulated profession. Every task has a corresponding document and the whole process of design and building is extremely codified, regulated and restrictive, probably according to the overwhelming Napoleonic legal system in use.

Therefore everything in an architectural project and its contractual pieces (drawings, descriptions and prescriptions) has one absolute goal: to precisely pre-define to the minimal detail the final object in order to prevent uncertainty. Uncertainty usually leads to problems that at the end of the day engage both responsibility and money.

Although the process is intended to develop in this way, it has been remarked that in the building site, things are far from being so clear. Qualitative research has been done by ergonomics specialists and sociologists about the transmissions of orders in a building site.

The results point to the existence of a “fuzzy prescription” in the way directives are transmitted, interpreted and executed from the project to the built product, all along the working chain from the architect to the bricklayer².

This can be seen as a defective process, a failure in the command chain, or alternatively, as we do, a normal issue corresponding to the complexity of social and cultural relationships in working environments that has to be actively dealt with. Not to correct it but to take advantage of it.

We have thus consciously used the “fuzzy prescription” as an instrument to deal with uncertainty and manage it. The “fuzzy prescription” in architecture implies less control of the final product but more freedom to change things on the fly, or less “desk-based design” (knowledge) against more builders’ “experience-based solutions” (know-how). In the end, we posited that if we let the builders propose their own insights to the problems they should be more confident in solving them and they also would be more economical, specially when working with the kind of small building companies that we could afford.

Spatial Needs

A comfortable, evolutionary open space workspace was the core of the program, even in precarious conditions, this had proved to be the ideal way of fostering interactions between researchers, not only formal ones but also tacit or informal ones, specially between people from different disciplines or backgrounds working on different projects (we called that *internal knowledge spillovers*).

² DUC, M. (2002) *Le travail en chantier*, Toulouse, Octarès.



Figure 8 – Divisible meeting room

In Glaizer, each quarter, aiming at boosting the processes of the “creative entropy”, we rotate places in the workspace, this being a specificity of the company. In order to do that without totally affecting personal environment and to favour appropriation of the space, we designed a special desk with a removable board. The colour of the board was chosen by its owner from a sample. Thus the board that could be personalised as desired would follow its owner through the process of switching places.

Once again, the architect did not controlled at all the colours chosen by the employees, thus the final result is a kind of ever-changing patchwork of different colours that reflect the collective sensibility of the people working in the open space.

Coffee-brakes and amenities

From our viewpoint, creative work in Glaizer Group, although based in formal communication relationships, is backed up by informal exchanges between researchers, flows of tacit knowledge in “peer to peer” relationships that has been called “buzz”³. It is clear that while the open space and the meeting room are the

³ STORPER, M., and VENABLES, J. (2004) “Buzz: Face-to-Face Contact and the Urban Economy”. *Journal of Economic Geography* vol. 4, N° 4: 351-370.

places were formal work take place, the facilities like the kitchen / refectory or simply a coffee brake or a cigarette (outside in the courtyard) are the places for informal communication.



Figure 9 – kitchen and coffee room

This is one of the reasons why these spaces have been carefully designed and placed at strategic points, the other reason being the search for high levels of comfort and wellbeing for the workers. People working at Glaizer are highly autonomous, schedules are flexible and many people spend many hours working till late: the workplace must be a place where they like to be.



Figure 10 – Technology Generator version 1.0, June 2009!

To the Technology Generator[®] 2.0

While still working on this project, called internally GT 1.0 because it was the first time Glaizer could fully manage the spatial resource, it became evident that restrictions in the available space (420 m²) and in what we could really do considering the difficult relationships with our neighbours, made that the project didn't fully express the aims of the company.

Further work was done in defining a "model type" of what a Technology Generator could be in terms of architecture: an ideal program was established and some sketches and ideas came to light.

We will now briefly present this work, which still reflects Glaizer Group's approach to the management of the spatial resource in the specific case of a technology generator, the main difference with what we think today being that at the time, the hypothesis for a location was a "campus like".

We have now evolved to the idea that a GT should ideally be located in brownfield sites, ideally in an exciting, multicultural and challenging urban environment, where social networks can develop, and location advantages (institutional or coming from urban life) are maximized.

General philosophy of the Technology Generator

A Technology Generator[®] is the confluence of energy and creative technology to develop innovative projects. It is intended to be the physical manifestation, as well as the host structure, of the know-how and functional expertise of Glaizer Group[®] in the creation, development and marketing of highly competitive innovations.

As we have been explaining, the first version of the concept of Technology Generator[®] was conceived in April 2006 and finally delivered in its built form in July 2008.

The spatial concept of the new Technology Generator[®] (TG[®]) Glaizer Group[®] offers an innovative response to the characterized needs for this new type of equipment:

- Open and wide workspaces, interconnected to the research areas, featuring physical proximity, but bearing a clear delineation of different areas.
- Spaces and support activities and support for research: premises as restaurants, sports halls, spaces of relaxation and concentration areas of dissemination and exchanges, lecture halls, multimedia rooms, forums.
- Working spaces dedicated to the "functional outsourcing" of certain activities of the WG[®], incubators and business incubators, which must relate to the applied research centre, while retaining a certain degree of autonomy. These areas by definition must be very flexible because they must adapt to the discretion needed for the projects developed by the TG[®].
- A significant flexibility and responsiveness in relation to spatial planning: the activities of TG[®] are themselves changing and adaptive to each project, the formation of task forces, infrastructure needs of each potential project and its approach to its outsourcing (from pre-development, pre-incubation, incubation, etc.).

The TG[®] 1.1 and 2.0

With the experience gained in the design and implementation of the first TG[®], the company Glaizer Group[®] has already anticipated the opening of a new TG[®] and laid the foundations for a new architectural concept that would be developed as a part of its deployment, in order to empower the methodology of *Technostrategic Intelligence* at its fullest extent.

The research space

The activities of the research centre will develop into a central space distributed in layers, arrayed in an open-space scheme and on different levels and sub-levels. The activities of meta-management will be placed at the centre of the scheme, at the crossroads of traffic flows of researchers within the workspace.

The organizing principle in multi-level yields a spatial correlation to the different degrees of exposure of the activities of TG[®]: the most "open" or public activities, will

take place in the Ground Floor, such as lecture halls, multimedia room, forum, restaurants, exhibition of contemporary art and digital works, etc..

Plus we get to the "heart" of research activities; the more you go up in space: the activities of pre-development and pre-incubation will be at 2nd floor. The research itself, with the Competitive Intelligence and the Financial Services, will be on the 3rd floor. The management level will be located on the 4th floor.

The "plug-in" offices

The research area described above is complemented by an innovative architectural device that will serve to locate the outsourced activities of the TG[®]: the "plug-in office deck".



Figure 11 – Plug-in office

The deck system consists of a platform, featured at each level, which "closes" and "protects" the research center, and also provides a flexible, or just connect, following strictly the requirements of each project and cycles in business incubation, work spaces built on ISO containers recycled and adapted.

The solution container is extremely flexible and modular, providing additional working space only when they are necessary and for the duration of work required. Obviously they can be placed close relative to the service and the research teams involved in each project.

This solution is a sustainable option because in addition to recycling industrial products at the end of life, it will not permanently consume urban land. This kind of process is being implemented in other contexts in Europe, especially for student housing, classrooms, workshops, artists, etc...

This innovative architectural solution is a guarantee of extreme flexibility in terms of use, because the teams have workspaces "tailored" and "just-in-time", optimizing the initial investment and rationalizing the consumption of urban land.

This device theoretically allows, in the proposed scheme, the potential addition of 400 m² per level (R 1, R 2 or R 3) and fit closer to the operational needs of the TG[®].

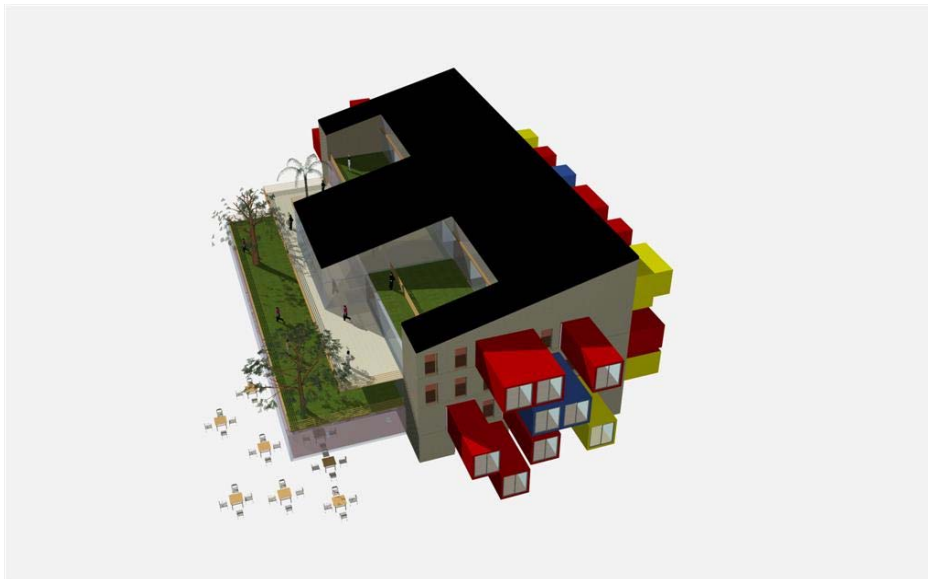


Figure 12 – Aerial view point

The flexibility of the "plug-in" system gives a real plus in reducing the environmental impact of the whole complex while completing the aim of having a high environmental quality construction (HQE in France). This is completed by the super isolated envelope of the building and the production of active energy by photovoltaic cells on the roof.

This configuration will actually limit the effective size of buildings and spaces (thus heating, cooling and all energy consumption) to what is strictly necessary in every circumstance.

Conclusion

Glaizer Group fosters a development strategy which includes the spread of the TG[®] around the world adapting the featured type-model to different local environments. Within ten years Glaizer[®] Group seeks a place in the global market for technological innovation as it considers it to be the challenge of the 21st century. For this, the company is working now in a strategy for deploying new TG[®], both at the national and international levels.

Development Strategy

In 2009 and after 5 years of existence and the validation of the business model, Glaizer Group[®] launches the deployment of a constellation of TG[®] in the French regions. The group searches in each of the targeted areas for local partners. Thus, after the Ile-de-France (GT[®] Malakoff 1.0 and 1.1), it is the turn of the Poitou-Charentes region to host this dynamic structure of local economies through the development and creation of innovative companies.

Glaizer Group[®] plans to create up to four TG[®] in France within five years and take the national leadership of the market for technological innovation by imposing a standard for creation of technology. All TG[®] in the constellation will be interconnected through an information system dedicated to the capitalization of knowledge and know-how of the entire group. This system is currently being developed within Glaizer Group[®] by its technostructure and some bricks are already being developed.

The aim of Glaizer Group[®] is to establish its TG[®] in areas undergoing restructuring or seeking a new economy dynamic. A study is underway to choose the locations of these future locations. This has already permitted the establishment of branches in Strasbourg and Poitiers.

The objective of the creation of these TG is to deploy them in a constellation, to create communities of researchers and innovators to work in generic technologies being the base for tomorrow's innovations.

The internationalization of Glaizer Group[®] is also in progress. The goal of the company is to have a constellation of ten Technology Generators[®] effective and efficient by 2017.

The architectural design of the TG[®] 2.0 reflects the values related to research and innovation, with a very strong and an extremely flexible development: one can easily imagine its adaptation to different urban and suburban environments in different climates and geographical contexts.