

M3.3, 3.4, 3.6, 7.3 Competence Centre structure and future perspectives

WP3. Competence Centre, T3.2-T3.4

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Date. 12/2019



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1 Introduction

The report presents briefly the possible structure of the Competence Centre (CoCe) for advanced facades (Milestone 3.4), its features to sustain itself over time (Milestone 3.6) and a review about its idea and structure (Milestone 7.3), as elaborated and defined during the FACEcamp project by the project partners and the involved local companies (in South Tyrol and Austrian Tyrol). Their involvement process has been described in Milestone 3.2. For any more detailed information, please refer to direct contact with Eurac Research, Institute for Renewable Energy.

One of the main objectives of FACEcamp project has been to create a cross-border Competence Centre (CoCe) on the topic of advanced facades. This centre aims to be an effective meeting point between the different actors in the world of facades, acting as a driving force for the sector, strengthening cross-border cooperation between companies and Research & Innovation centres, towards the construction of comfortable and energy-efficient buildings.

2 Objective

The activities presented in this report aimed at conceiving, defining, structuring and evaluating the Competence Centre (CoCe), its possible vision, mission, activity and final organizational structure. The conception and detailed definition of this Centre had the underpinned idea of creating an internationally recognised institution, capable of highlighting the deep-rooted local skills in the field of the building envelope, as well as launching new cooperation in terms of training, dissemination, research, innovation and business.

3 Methodology

The process of conception and definition of the CoCe was managed by IDM and involved all the project partners at the forefront. Thanks to a series of work sessions, with in-person meetings and tele-conferences, the theme of the Competence Centre was tackled based on the results of the workshops with the local supply chain (see Milestone 3.2). These workshops highlighted the different variants of the "facade" needs along the entire supply chain in the short and medium term.

From this analysis began the definition of a series of possible potential services characterizing the CoCe, the analysis of existing competence centres at both local and European level, up to the definition of vision and mission.

As next step, the issue of possible business models to support the initiative was therefore addressed. These models were structured during a dedicated workshop and reworked in the following months, also thanks to the methodological inputs of the TRIZ and WOIS methodologies.

Once the business models were defined, the possible services were verified in terms of skills available within the group of FACEcamp partners. Based on this, a strategic choice on the CoCe focus has been taken to strengthen the value proposition.

As a last step, a business plan was built because of the possibility of establishing an "Innovation Pole", as defined by the funding announcement of the Province of Bolzano, because of a group of companies highly interested in participating.

Summarizing, the adopted methodology was based on the following activities.

1. Initial brainstorming and definition of possible services as a response to the needs of the territory.
2. Definition of "vision" and "mission".
3. Detailed analysis of business models, through the business model canvas.
4. Mapping of competences.

5. Strategic choice.
6. Business plan.

4 Results

4.1 Possible services

As mentioned, a series of issues and needs emerged from the workshops involving the local façade-related value-chain. The outcomes have been processed to better root the possible services of a CoCe, as listed in Table 1.

Table 1: First list of possible relevant services for the cross-border CoCe (South Tirol and Austrian Tirol)

Technology transfer	Technology radar
Research and Development project	Commercial services
State of the art and innovation monitoring	Marketing for the local value-chain
Prototyping	Public bodies connections
Calculation, Measure and Tests	Support for certification
Dissemination	New business starting up
Education	...

4.2 Vision and Mission

The CoCe **vision** is “to have healthy and high performing buildings, thanks to the high quality of the solutions we provide in the field of façade innovation, design, manufacturing, construction, testing, management and education”. To do so, the **mission** is “to be the unique Tirolean façade competence hub, operating as a market related, ready to use solutions provider and R&D catalyser.”

4.3 Business models

Based on this definition, three typologies of services have been deepened as the most critical ones. (1) Consultancy. (2) Measures and Simulations. (3) One-Stop-Shop.

Table 2: Services portfolio and business model canvas

	1. Consulting	2. Measurements and Simulation	3. One-Stop-Shop
<i>Key Partner</i>	FACEcamp partners	FACEcamp partners	To Be Defined
<i>Key Activities</i>	Brokering CoCe services	Simulations and measures on facade	All activities, from the concept design to the implementation of real projects
<i>Key Resources</i>	Management, marketing and technical competences	Management, marketing and technical competences Software and Hardware	Technical staff able to cover the whole value-chain
<i>Value proposition</i>	Solving facade complexity	Minimizing risks for complex facade and performances characterisation	Performance based contracts,

			Unique interface for the customer and high scientific background
<i>Customer Relation</i>	Model: Request → Delivery	Business to Business	Business to Business
<i>Communication channels</i>	Facade call centre	Media, events, R&D projects	To Be Defined
<i>Customer Segments</i>	All facade value-chain stakeholders	All facade value-chain stakeholders	Architects, Investors
<i>Costs</i>	Permanent staff, Calculation tools	Permanent staff, Calculation tools	Permanent staff, Calculation tools
<i>Revenues</i>	Pay per service, Annual fees	Pay per service, Selling tools	Overall project budget

4.4 Competence Mapping

One of the key steps in our analysis was to perform a screening on the specific competences owned by each one of the project's partners, aiming to understand if a future CoCe could be relying on an already developed set of core expertise without the need to outsource them in the market. The result of this analysis was promising (Table 3), reaffirming the rationale behind the establishment of a local based CoCe.

Table 3: Matrix partners / competences

Interreg ITA AUT PROJECT: FACEcamp N. ITAT1030 WP03 - Competence Center Task 3.4 - CoCe's economic sustainability Competence mapping							
Main fields	 SÜDTIROL ALTO ADIGE Bolzano (I)	 Bolzano (I)	 Innsbruck (A)	 Abfaltersbach (A)	 Aldrans (A)	 Bolzano (I)	 Brixen (I)
1 Assessment of solutions		•		•	•		•
2 Business development	•			•	•		•
3 Certification							
4 Commercial services				•	•		•
5 Consulting for tenders		•		•	•		•
6 Design + Build				•	•	•	•
7 Education	•	•	•		•	•	
8 Employment support			•		•		
9 Information	•	•		•			
10 Marketing			•	•			•
11 Measurement/assessment tools		•			•		
12 Prototyping		•		•			•
13 R&D projects	•	•	•	•	•		•
14 Relationships with public bodies	•	•			•		
15 State of the art monitoring	•	•			•		
16 Technology consulting	•	•			•		•
17 Technology radar	•	•	•		•		
18 Technology transfer	•	•	•		•	•	
19 Testing (Lab)		•	•		•		

4.5 Strategic choice

Downstream from the development path described so far, it was decided to focus the CoCe on the development of a digital design and development environment, to support the façade supply chain. This topic has been defined as clear technological focus emerged from the analysis of the skills of the FACEcamp partners, and other interested parties, as well as from the evaluation of industry trends and the development needs arising from them. The choice was therefore to focus around a common development, namely of a BIM-based platform for the calculation, simulation and evaluation of complex facade systems. In addition, the FACE course (see Milestone 2.6) and the international Future Envelope conference (see Milestone 2.7) were kept as the strategic potential activities of the Competence Centre.

4.6 Business plan and sustainability in time

Following the strategy described in the previous chapter, a business plan based on the CoCe operational structure has been defined able to run the following activities.

1. Know-how transfer through courses and events.
2. R&D projects.
3. Services to market development.
4. Local façade ecosystem promotion.

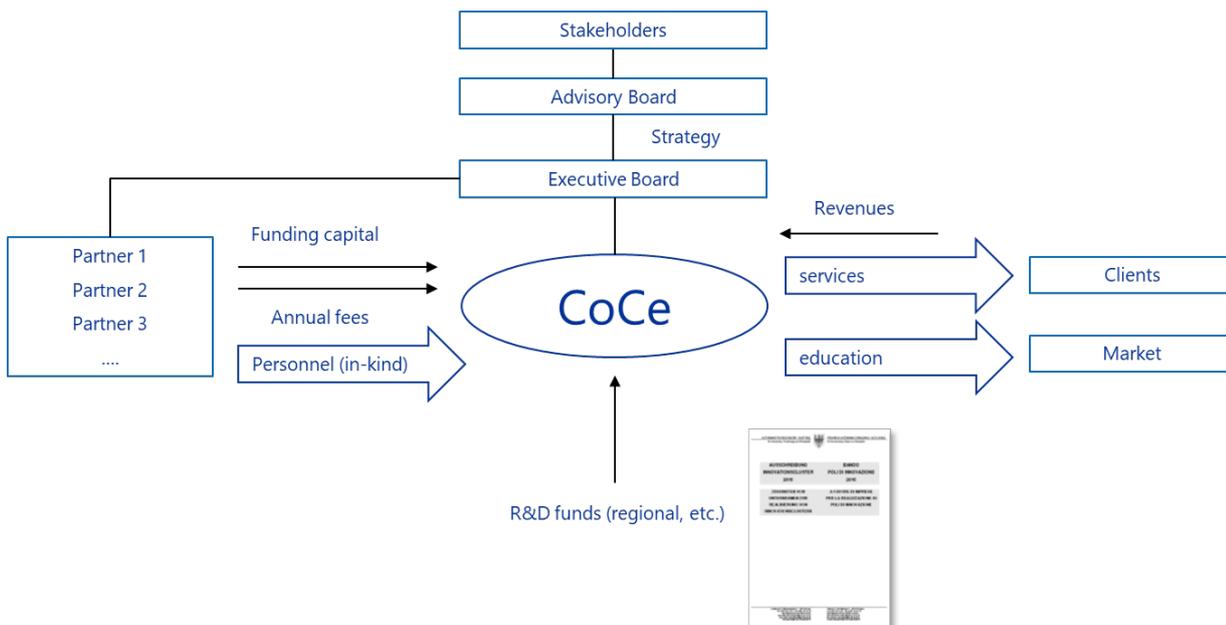


Figure 1: Structure of the Competence Centre (CoCe)

The costs vs revenues structure can be simplified through the following scheme.

Table 5: CoCe costs and revenues

<i>Costs</i>	<i>Revenues and funding</i>
Administrative	Education and training
Staff	R&D projects
Operations	Regional funds
Investments	Services/products sales
Marketing	Partners' fees
...	...

The 5-years CoCe business plan we defined demonstrated that the economical / financial sustainability is possible only if relying on a public (local) funding covering 50% on average of the incurring costs for the first three years. This makes sense if we consider the CoCe as a start-up that needs at the same time to stabilize its business, finding clients and producing quickly ready for the market services. We consider this co-funding sufficiently realistic, given that the local Government (Autonomous Province of Bolzano) put some funding tools into force, under the Law 14/2006 on Innovation including an open call for Innovation Cluster. After three years (this corresponds also to the maximal duration on local co-funding), the CoCe should be adequately recognized by the market,

have already developed its core portfolio of service and capable to run its operations self-sufficient from an economical / financial standpoint.

4.7 Critical review on the CoCe idea and structure

As said in the previous paragraphs, FACEcamp project aimed, among its various objectives, at creating a cross-border Competence Centre (CoCe) on the topic of advanced facades. This centre was initially conceived to be an effective meeting point between the different actors in the world of facades, acting as driving force for the sector, strengthening cross-border cooperation between companies and R&I centres, towards the construction of comfortable and energy-efficient buildings.

The conception and detailed definition of this centre had the underpinned idea of creating an internationally recognized institution, capable of highlighting the deep-rooted local skills in the field of the building envelope, as well as launching new cooperation in terms of training, dissemination, research, innovation and business

Although the consortium has been concentrating a lot on the establishment of the “physical” CoCe, this was, at the very end, not realized in the form of a common, labelled and physical office. Instead the FACEcamp project has been very successful in creating an internationally recognized “Façade-Knowledge trans-border region”, connecting relevant stakeholders, also thanks to the “FACE courses” (<https://www.facecamp.it/en/events/course-advanced-facades-face3/>), the Future Envelope 12 International Conference in Bolzano (www.facecamp.it/eventi/the-future-envelope-12/) and the EFN partnership (<http://facades.ning.com/>).

Several reasons can be identified as critical points preventing the achievement of a physical establishment of such CoCe.

1. The budget for creating an own physical CoCe office including administrative personnel was seen as very demanding based on possible business plans.
2. The idea of being an “ARGE” or On-Stop Shop for façade design AND realization seemed to be very attractive, but appeared not to be feasible due to the fact that this tight legal bound was not preferable by industries partners. Moreover, it was unclear to see increased market shares in comparison to the risk of joint liability.
3. The business plan, structure and sustainability, explained beforehand, are based on a very tight legal bound (Srl. or GmbH) between the partners. In the perspective of research institutions this bound is reducing the independence in public appearance.
4. Some possible partners did not realize the benefits of a common structure officially recognized on the market. This was instead underpinning a non-spoken fear: the CoCe as entity in competition against the partners business or at least with undefined and unclear contribution to increased business activities. This has been a basic difficulty from the beginning of the project work.
5. Finally, the local agencies IDM in South Tyrol and Standortagentur Tirol were seen as this physically addressable contact points for a long time in the project. This was safe haven, but increasing the risk of hiding for industrial partners.

Even if neither missing physical addressable contact point of the CoCe nor a formal legal entity has been established, there is still a lot of value in the network established with and around FACEcamp. Industrial partners have an improved mapped local network of highly skilled and well-equipped contact. Besides this, the joint building up of calculation and measurement methods has resulted in an interesting way to narrow the gap between companies and research-innovation partners.

These latter have benefit (and will more and more) of the shared and deepened methods and results of FACEcamp network research, strengthening the focus on the new façade trends. Moreover, the joint participation in common construction real project (Design Assist, Integrated Design Process, construction, ...) is a practical promising possibility. Finally, next upcoming funding channels will be

exploited under a more focussed and sharp perspective thanks to the competence mapping and research topics identification.

5 Conclusions

At the end of WP3. Competence Centre activities we can summarize what follows.

Following previous local experiences in creating a local network around the topic of complex facades technologies for the built environment, we can confirm that an high level of know-how is already locally developed (i.e. transnational South Tyrol – Tyrol), and a group of interested stakeholders exists (including research centres and universities, general contractors, designers, consultants and a few start-ups).

The interest raised from this local community and the level of engagement turned out to be promising. The FACEcamp project has been the “camp” where to test and develop further these research and business opportunities.

Also thanks to the network opportunities developed during the project and to the program funding, this local façade ecosystem acquired a good visibility at a European level - see for instance the participation in the European Façade Network (EFN) - and position itself in the European façade map as a the reference group in the Alpine region.

On the other side, we experienced some difficulties in putting together some entities with similar services and business. This has been even more difficult considering the typical size of local entrepreneurs and the general inertia for SMEs from this area to collaborate in joint initiatives. The collaboration looks more feasible where the CoCe can provide shared services valuable for all to increase the general knowledge level, e.g. education, training, marketing campaigns, etc. Under this perspective, an association of entrepreneurs looks a more suitable scenario.

A common request for digitalization in the construction sector, in line with the national (Industry 4.0) and European trends, emerged in the final year of the project as an interesting opportunity. Also, in this case, a prevalent need gives a chance to remove the barriers in collaboration. The expertise of the different actors in this network might be focused on developing some digital tools valid for all the partners and this output may be afterwards sold in the market, providing an additional revenues opportunity for the CoCe.

FACEcamp partners

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Acknowledgement:

This work is part of the research activities of the project FACEcamp n. ITAT1039, funded by European Regional Development Fund and Interreg ITA AUT programme.