

WP 3 - Deliverable 3.1.1 – Mapping Innovation Poles Report

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TABLE OF ACRONYMS

T2I	Technology Transfer and Innovation S.C.A R.L.
IDA	Istrian Development Agency Ltd.
AGRRA	Agencija Za Ruralni Razvoj Zadarske Županije
INVESTINFISH	Boosting INVESTments in INnovation of SMEs along the entire FISHery and aquaculture value chain
F&A	Fisheries&aquaculture
FLAG	Fisheries Local Action Groups

EXECUTIVE SUMMARY

This report deals with the results achieved in the framework of the INVESTINFISH project, regarding the mapping of the innovation poles in the five territories of the project: Veneto, Marche, Puglia, Istria and Zadar.

In the first part of this report a historical note of the innovation poles will be provided and an attempt will be made to clarify the definition of these poles and what they offer.

A small focus will then follow on the need for innovation poles in the fisheries and aquaculture sector to pass, finally to the more operational part inherent to the INVESTINFISH project innovation poles database.

The methodology used for the creation of the database, its usefulness for the purposes of the project and how this has been useful for the creation of the interactive map of the poles will be clarified. As regards the information concerning the single poles, instead, we refer to the direct use of the database.

Finally, the last part of the report will focus on the results obtained from the database, describing them on a statistical point of view.

INVESTINFISH PROJECT

INVESTINFISH - “Boosting INVESTments in INnovation of SMEs along the entire FISHerY and aquaculture value chain” is a project funded by the Italy – Croatia CBC Programme under the Priority Axis 1 “Blue Innovation”, Specific Objective 1.1 (S.O.1.1) “Enhance the framework conditions for innovation in the relevant sectors of the blue economy within the cooperation area”.

INVESTINFISH sees the cooperation of n. 6 Partners from 5 Different Regions: T2I (LP – Italy – Veneto), Sviluppo Marche (PP1 – Italy – Marche), D.A.Re. Puglia (PP2 – Italy – Puglia), Punto Confindustria (PP3 – Italy – Veneto), Istrian Development Agency (PP4 – Croatia – Istria), Zadar County Rural Development Agency (PP5 – Croatia – Zadar).

INVESTINFISH main objective is strengthening of competitiveness of F&A production system through promotion of investment programs aimed at acquisition of innovation services. INVESTINFISH implements pilot actions providing some IT-HR F&A SMEs with a roadmap to innovation instruments & services, boosting creation of marketable innovative products and/or processes that will improve the SMEs potential market positioning.

Expected benefits for enterprises are: accelerate time to market, increase linkages with innovators, increase F&A enterprises R&D expenditures in new & greener components/technologies/services, to boost HR-IT competitiveness. INVESTINFISH intends also to offer to the F&A sector to substitute the value chain concept with value network, proposing a shift from traditional value chains towards more collaborative value networks.

INNOVATION POLES: HISTORY & DEFINITION

Economists and politicians agree in recognizing a crucial role for innovation, especially of a technological nature, in stimulating productive activity. Innovation is therefore a necessary precondition for companies, no longer a strategic option, and represents the dynamic factor par excellence, capable of stimulating competitiveness.

When we talk about innovation applied to the industrial sector, we usually refer to companies already present on the market and emerging ones. The formers are committed to innovating in order to remain within the market, thus responding to external demands, while the latter seek their own placement within the markets by leveraging on the enhancement of production and competitiveness activities through increasingly more methods and techniques innovative.

In the industrial economy, therefore, innovative activity requires many resources and is a rather risky activity for entrepreneurs who decide to undertake it, because in the short term it does not provide significant results, although it requires qualified skills (*Denicolai 2010*).

In order for a company to be able to define itself as innovative, it is necessary that it focuses its attention on three elements:

- **the strategy** to be undertaken in order to allow the choice of the product to be introduced on the market in which it intends to compete and the technologies through which we hope to do so;
- **financing**, to make investments so as to obtain higher revenues;
- **the organization**, so as to allow the combination of resources in an attempt to transform them into salable products.

To these factors, another five are added, linked above all to the relational sphere of the company and its human resources: ***motivation, teamworking, ability to adapt to change, executive capacity*** and ***trust***.

In this report, however, we will not focus on this purely internal area of the company, but will focus more on the company's ability to innovate by binding and interfacing with other external subjects, who share the reference environment with the company.

As underlined by the **Innovation Strategy** (OECD 2010), indeed, companies are increasingly acquiring the knowledge they need from outside, using different forms of partnerships ranging from alliances and joint ventures with external partners to acquisitions through R&D contracts and patents.

The innovative process is therefore a collective process that requires the collaboration of different agents who also possess different abilities.

In light of what has been described, the economic policy tool that seems to embody all the characteristics indicated above and which was considered capable of transporting the economy towards innovation, has been identified in the **innovation poles, which appeared for the first time in the scenario European industry in the 1980s in France.**

To obviate the industrial decline of '80, the French State was forced to put in place a task force of public investments aimed at stimulating growth by intervening in the field of innovation and research, preparing a series of devices and technologies developed by public research in order to encourage the creation of innovative companies.

In this context, **on 14 September 2004 the *pôles de compétitivité*¹ were born:** *business associations, research centers and training organizations, engaged in partnerships designed to bring out synergies on innovative projects, conducted in a common direction, a market and a specific territory.*

This new policy tool was put in place with the aim of favoring R&D projects, of creating strong links with the territory, of achieving a high level of innovation through the overcoming of the traditional relationship of subordination that is created in the interaction relationships between companies of different sizes, also actively involving small and medium-sized enterprises (SMEs) as possible carriers of technological innovation.

The implementation of this public policy also involved a paradigm inversion, which saw the transition from a regionally oriented organization according to which each region was able to provide everything independently as if it were an island, to an organization that required to the same ones to choose their own field of specialization and to collaborate with the others for the

¹ Quatraro 2013

areas of specialization different from the one chosen. This has allowed us to create a specialization map for each region, constituting a geography of technological and innovation skills divided into large areas of specialization.

The implementation of this public policy had the greater merit of associating economic development with higher education and research and dynamism in exchanges and the constant renewal of ideas and projects, **not excluding the state**, which on the contrary found itself to play a role within this dynamic process, dealing with the granting of funds allocated through the projects (*Froehlicher and Barès 2014*).

Since their birth, therefore, the innovation poles could enjoy a wide freedom, especially from an organizational point of view. Moreover, in order to favor the establishment of the poles around concrete economic projects, the state opted for the assignment of their direction not to the representatives of the state or of the territorial collectivities, but to the actors responsible for the creation of added value, or to the general manager, to the director of R&D, to the director of the strategy.

The objective of the poles is therefore to achieve a high level of innovation by going beyond the traditional relationship of subordination that is created in the relations of interaction between companies of different sizes.

In this way, even SMEs can enjoy greater weight, because potentially they could be carriers of technological innovation. Companies, however, are not the only actors to constitute a pole, because in their constitution actors from the world of research and teaching are also involved. The latter are fundamental for two reasons, namely for the transfer of knowledge acquired through studies in the economic field and for the construction of training courses directly linked to the needs of the poles.

Today innovation poles are considered as an important lever for economic and productive systems.

In summary, therefore, we can state that **innovation poles are groups of companies** (innovative, small, medium and large start-ups and research organizations) **active in priority chains of regional development.**

The Innovation Hubs have the general objective of stimulating innovative activity and encouraging intensive interaction, the common use of installations and the exchange of knowledge and experience, as well as effectively contributing to the transfer of technologies, to the implementation of network and the dissemination of information between participating companies.

Fisheries & Aquaculture sector, FLAGs and Innovation Poles

To increase the competitiveness and economic performance of aquaculture and fishery sector, it is vital to stimulate and to provide support for investment in innovation.

F&A sector is characterized indeed by SMEs/micro-firms generally facing difficulties in accessing to innovation due to their dimension combined with high entry costs for R&D. SMEs have also scarce attitude to cooperate and there is substantial gap between R&D providers and SMEs due to lack of substantive understanding of industry needs and mutual dialogue.

To meet challenges, it is necessary that F&A firms exploit their products potential, innovate value & quality of territorial F&A tradition by transforming the classic "*do everything alone*" into innovative multi-open partnership approach applied with tailored and innovation & demand-led support. **In this regard it becomes essential to take advantage of the opportunities created by strategic partnerships and innovation poles.**

By analyzing the possible typologies of partnerships, we can find, for example, the partnership between primary producers, that between producers and other actors of the chain and that with subjects belonging to other sectors.

Cooperation between producers often arises informally, between individual producers who decide to pool certain resources (ice machines, forklifts, etc.). This sharing of facilities or machinery may ultimately require a certain level of organization. In addition, other more complex projects can be platforms for joint marketing actions or collective brands, where producers pool their resources to sell their products, requiring a much more official formula. This macro-sector includes cooperatives, common marketing platforms such as online auction platforms for the promotion of local artisanal fishing, and producer organizations.

A second type of positive cooperation in the sector is that with the actors present within the supply chain. The primary producers, in fact, although playing a fundamental role within these chains, do not always benefit from the added value that is generated in the later stages of the chain.

In many cases, not even other local companies, such as processing plants or restaurants, are able to capitalize on this local resource because the catches are bought by wholesalers and shipped directly to distant markets.

In this context Fisheries Local Action Groups (FLAGs) have a great and important role to take part: they usually need to play in assisting local businesses to enhance the value of fish landed or produced in the area; moreover, FLAGs can intervene to ensure a better connection between local producers and companies able to enhance their products, thus helping to maintain added value in the area and allow the local community to benefit from it.

FLAGs can support a series of activities to ensure more fluid and effective connections between the various players in the supply chain including: industry events with network activities for local supply chain actors, bilateral meetings between different stakeholders, visits to suppliers, creation of a contact list of suppliers and retailers, etc.

So, it is clear that the fishing industry does not operate completely isolated from other sectors: it will therefore become important to create synergies between sectors and, in particular, with innovative poles' characters.

Links with the scientific community, for example, could lead to interesting forms of assistance. Science and research can improve the performance of companies at any stage of the supply chain: from the improvement of production techniques to the development of new transformed products or new forms of marketing. It is also possible that there are other forms of innovation, borrowed from other sectors.

This is the case, for example, of many ideas developed in other food chains compared to similar problems as regards traceability, food safety and logistics. The value chain in the agricultural sector, for example, has led to many innovations regarding food products, packaging or marketing.

FLAGs should pay attention to how other food chains are organized, so as to encourage the dissemination of virtuous practices in the fishing sector. Working with the LEADER groups in the surrounding areas could be a good point of access to the world of innovation in the agricultural sector value chain.

Finally, the creation of partnerships to which various sectors adhere can also bring innovations and generate synergies in the field of communication - for example, through a joint brand, so that producers can enjoy the mutual image or a regional brand.

The commitment to promote cooperation and the establishment of partnerships should be a key element of the operational methods of each FLAG.

This can lead to the enhancement of all the parties involved, helping to mobilize all the potential of an area to strengthen the companies present along the value chain of the fishing sector.

Indeed, the rise of increasingly technology concepts capable of modernizing F&A sector (such as new IT devices, automation, last generation sensors & nanomaterial, as proposed by the market or deriving by EU funded research & ITHR laboratories) requires the creation of an appropriate open & collaborative environment, as the key-matter of competitiveness is the rapid transposition of KET of R&D results in new end-users components and new applications for companies operating in fishery and aquaculture sector.

So, it is evident that joint knowledge sourcing services can be more and more efficient for the final beneficiaries by aggregating the excellence nodes in one system and this can be reached through the cross-border cooperation within the most dynamic innovation poles inside and outside the Italy – Croatia cooperation area.

Precisely for this reason the INVESTINFISH project, in its work package 3, carried out a **deep study and analysis of poles of excellence able to trigger innovation in the five Regions concerned**: Marche, Veneto, Puglia, Zadar and Pula. The results of this analysis have been implemented in a **database** (output 3.1) as the basis of the mapping of innovation poles and networks devoted to trigger innovation.

METHODOLOGY

To respect the principle of transparency and equity of treatment, to collect the expressed interest and authorizations (to treat the data/publish the logo etc.) and at the same time to have a fruitful cooperation with the stakeholders, **the INVESTINFISH innovation poles database was created through a public call.** Moreover, to maximize the number of responses obtainable, the INVESTINFISH project partners decided to create a Google Form, to spread through different poles of innovation in each Partner territories, and made a desk research.

As possible poles of innovation, various subjects were considered, including:

- Networks
- Clusters
- Digital Innovation Hub
- Universities and Research Centres
- Competence Centres
- Scientific Parks
- Incubators/Accelerators
- Business Support Organization
- Innovative SMEs/Start-ups

The desk research was the starting point of the INVESTINFISH research: in this regard, the website of the possible main innovation hubs in the five Regions was considered as the first source of data. From these pages the main information concerning the contact points of the respective stakeholders were extrapolated also with their main missions and actions, as well as their target area.

This information was then subsequently confirmed and implemented during direct contact with the organizations. There have been cases in which it was not possible to confirm the correctness of this information, so the results of this research were concluded in the desk research phase.

The second phase saw its focus on public call: it allowed the INVESTINFISH project to collect all the feedback and information from the target stakeholders, creating a first link between them and Partners.

Partners prepared the call in English and their respective language and pushed it through the project website, their official website, social media channels and all other useful media for the purpose.

The response mechanism to these calls was structured through a **Google Forms** that allowed the partners to have all the data already organized in an excel file, ready to be processed and analyzed. Each Partner has analyzed the responses received, evaluated and chosen to implement it in the project database.

Google Form was chosen because it allows to include different types of questions (such as short answers, paragraphs, multiple selection, verification boxes, pull-down, linear scale, grid of several options, among others) and is easy to use both for creators and interviews. Moreover, Google Forms allow to share both the editing of the forms and the results with all Partners: everyone can view them at the same time, make edits at the same time and see other people's edits as they make them. Finally, through Google Forms is possible to receive results automatically to a Google Sheet (shareable between partners via links) that makes data analysis quicker and easier. Indeed, Google's document sharing abilities are extremely useful when it comes to collaborating with other parties.

The Google Module structure was the following:

1. NAME OF ORGANIZATION
2. LOCATION
 - Address
 - City
 - Country
3. CONTACTS
 - Mail
 - Phone number
4. WEBSITE
5. LEGAL STATUS (public/private)
6. Targeted Area (local, regional, national, international)

7. Main Sectors of interest
8. Mission
9. Key Services Provided
 - Incubation/acceleration
 - Training
 - R&D
 - Internationalization
 - Networking
 - Consultancies
 - Funding support
 - Advocacy
 - Labs
 - Others
10. Do you have experiences in F&A sectors? (Y/N)
11. If YES, which kind of services do you provide?
12. Years of experience in F&A Sector
13. Do you have specific technologies/equipment useful for F&A sector?
14. If YES, list of technologies/equipment available
15. Do you have any best practice related to F&A sector? (y/n)
16. If YES, please describe them

Below is an explanatory image of the database:



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PP n°	Name	Country	Mail	Phone n°	Website	Type of Organization	Legal Status	Targeted Area	Main Sector of Interest	Mission	Key services	Experiences in F&A sectors?	Description	Years of experience in F&A Sector	Specific technologies/equipment for F&A sector?	list of technologies/equipment	Best practice related to F&A sector?	Description	

Figure 1 - Innovation pole database

DATABASE SCOPE

The main purpose of this database is the identification of a possible innovation environment that can be exploited by companies engaged in fishing and aquaculture. Innovation ecosystems, indeed, can operate at multiple levels (for example city, region, nation) and within multiple sectors (e.g. R&D, laboratory, education) thus becoming an excellent growth opportunity for these companies.

Through the use of this database, in fact, it will be possible to have a clear picture of the current situation regarding the innovation poles in the five regions of the INVESTINFISH project: it will in fact be possible to filter the results obtained based on the **type of organization** to which one wants to be to address, to the **target area of action** (local, regional, national or international) of each pole, their **main sector of interest** and the **main services offered**.

This will make it possible to obtain a first indication of who makes innovation in their reference environment and, above all, who to contact for the possible purchase of services aimed at innovation.

The second part of the database will make it possible to obtain even more detailed information in this regard. In fact, the database will allow us to know:

- for how many years the organization has been working in the F&A sector,
- if in this period it has used developed and useful and detailed technologies for the sector (with relative description),
- if it has developed good practices that can be used within the sector, describing these in detail.

All this will therefore make it possible to fully understand the services and the current situation of the innovative offer in the five countries of reference, providing practical and effective help to the entrepreneurs engaged in the sector.

The call will still be kept open until the end of the project, to ensure the dynamism of the reference environment. At the same time, every month, the database containing the innovation poles mapping will be constantly updated with the new information collected during the life of the project.

This will be the strength of this database: this, in fact, will allow for a constant dialogue with the ecosystem, increasing the opportunities to collect more and more information on an ever-increasing number of innovation poles, ensuring a large catchment area with possible collaborators for companies operating in the fishing and aquaculture sector.

This will ensure a data collection that is always up to date and as realistic as possible of the environment in which these companies operate.

Finally, this database will be used as a source of the data necessary for the functioning of an **interactive MAP**. The structure of the interactive map was created by the DARE partner, in open source format, while the rest of the partners updated it with the data collected.

INTERACTIVE MAP

Regarding the interactive map, the data entered in the database relating to the addresses of each innovative pole were used, from which spatial indications such as longitude and latitude were extracted, which were inserted into Google Maps, creating a special map.

This map can be reached at the following link:

<https://www.google.com/maps/d/u/1/embed?mid=1m4Rk943upvJSS45IXYg8hmqlYIWEXuCi>

Each indicator on the map allows you to obtain the most important information relating to that particular pole: such as, for example, the personalities linked to the innovative pole, the type of organization, the legal status, the services offered, the sector of interest, the target area of action and the best practices developed during the years of activity.

This interactive MAP shows the results obtained in a visually more impactful way.

DATABASE RESULTS

Observing the results collected so far through the research, it is possible to observe a great heterogeneity of the results achieved. The data collection, in any case, will remain constantly open and the database updated monthly so we expect a growing number of results also on the Croatian side.

Starting from the analysis of the legal status of the interviewees, it is possible to observe how most of the innovative poles identified within the INVESTINFISH project are of the Public type, in Italy also innovative private poles have been identified, albeit in a smaller number.

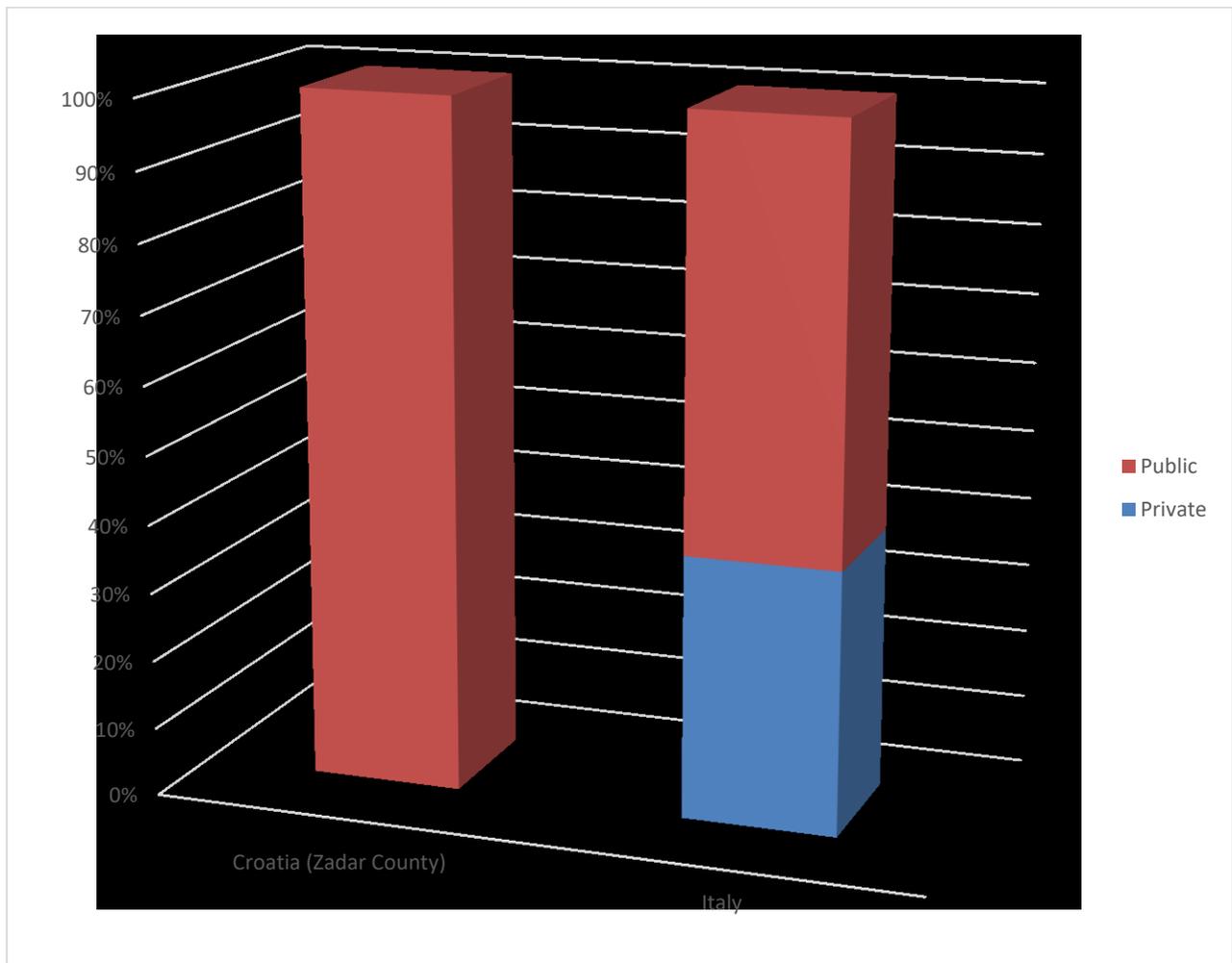


Figure 2 - Innovation poles for Legal Status

The target area of these innovation poles, also tends to be mostly regional as far as the Croatian side and mostly national as regards the Italian side. Furthermore, in Italy it is possible to observe a large number of subjects that operate at the local level and a good part that operates at international and regional level

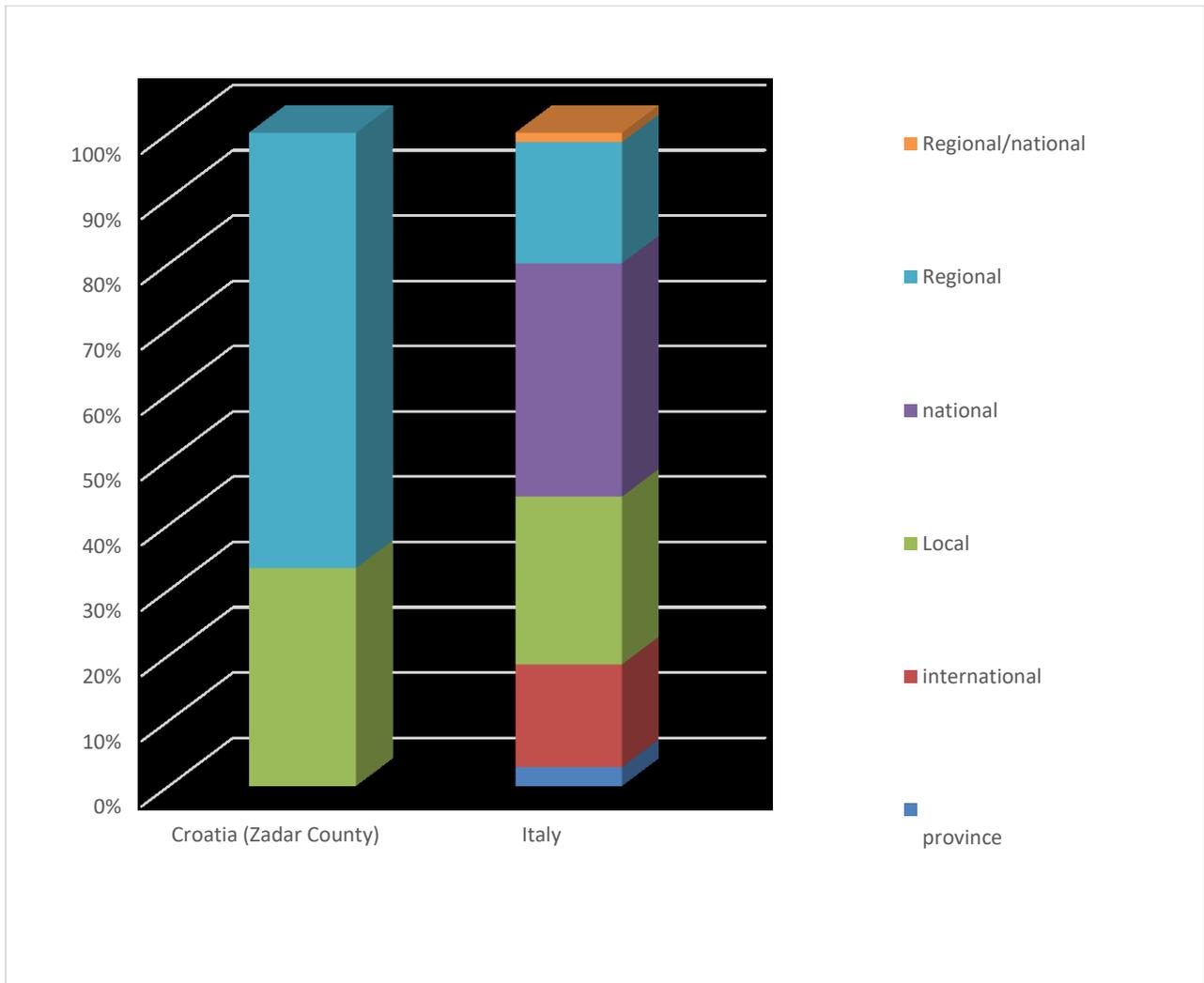


Figure 3 - Innovation Poles - Targeted Area

Regarding the types of organizations, it is possible to observe how the Italian field is dotted with different subjects that deal with innovation, first of all the Business Support Organizations, followed by Universities and Research centres.

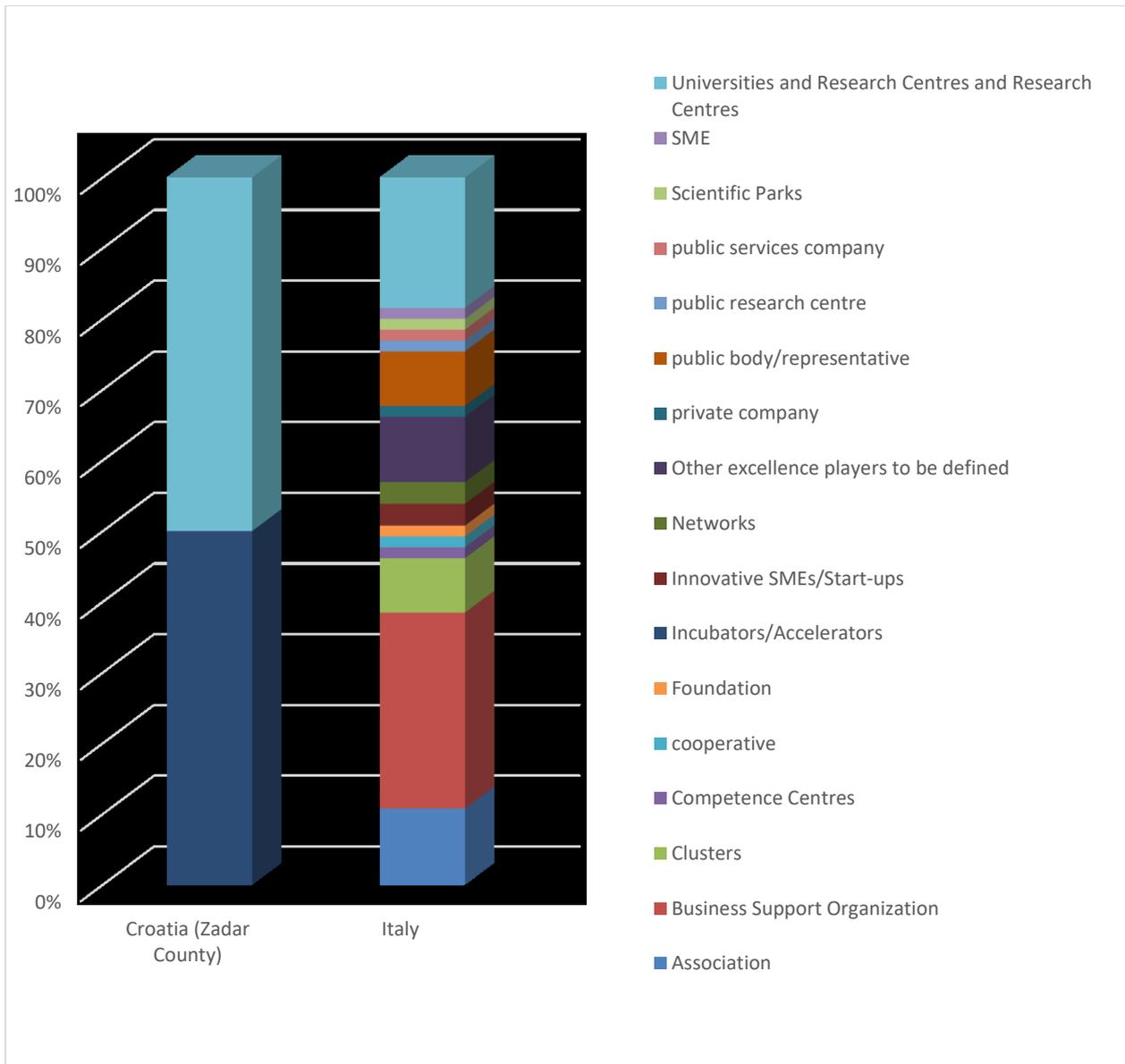


Figure 4 - Type of Organization

For both countries of reference, most of the innovative poles interviewed have already developed years of experience in the fishing and aquaculture sector.

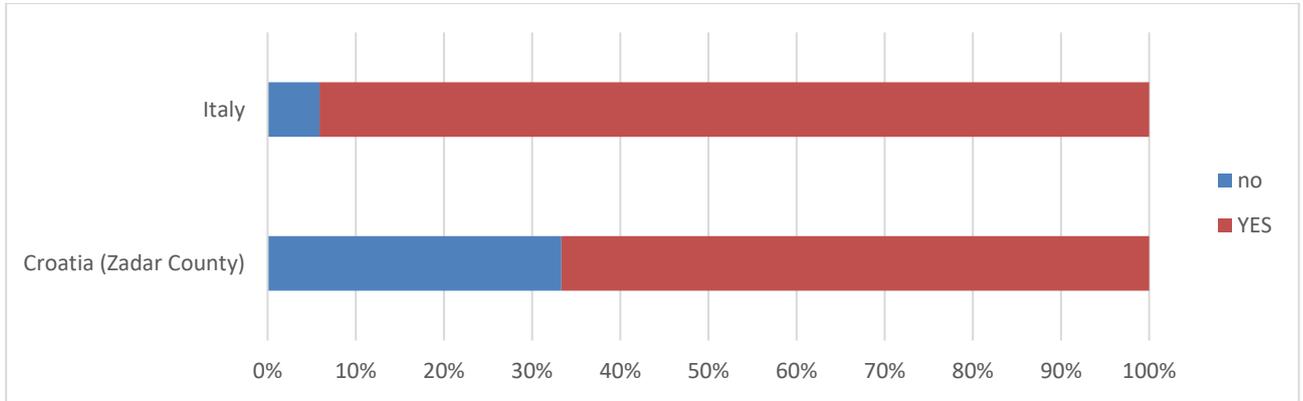


Figure 5 - Innovation Poles & experience in F&A sector

Many of which also develop specific technologies, equipment and best practices useful to F&A sector.

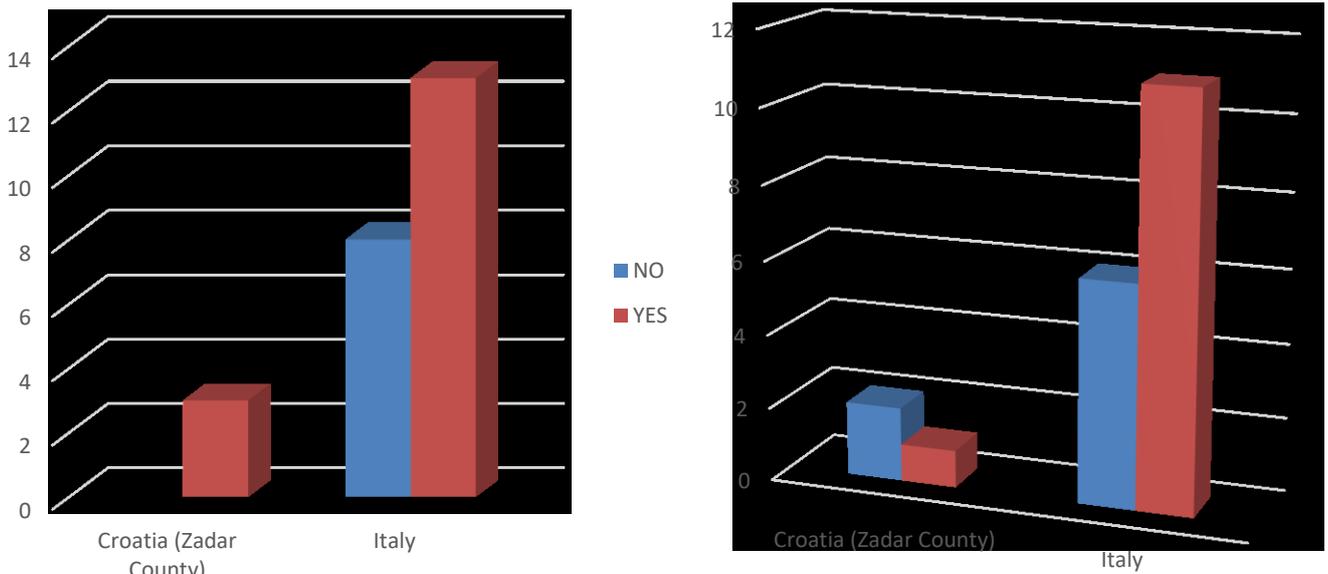


Figure 6 - Specific technologies/equipment for F&A sector (left) and best practices in F&A sector (right)

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