INNOVATION NUCLEI FOR THE CERAMIC TILE SECTOR: A QUALIFICATION FRAMEWORK

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1. INTRODUCTION

The implementation of Innovation Nuclei (IN) inside the ceramic tile companies arises as an effective way to create permanent channels of knowledge transference between universities and research centers and the companies, in order to convert such knowledge into new competitive products and, therefore, into wealth, jobs and income within Brazil. With the aim of creating these IN, a need for qualification of their future members is indispensable. A framework for the qualification of members of Innovation Nuclei is here introduced.

Innovation nuclei are "agencies consisting of one or more scientific and technological institution with the purpose to manage its innovation politics" (BRASIL, 2004). The implementation of IN inside the companies of the ceramic sector seems to be one of the most efficient ways to create permanent channels of knowledge transfer between universities and industries, and, therefore, to transform these knowledge into innovative products. In addition, the creation of IN inside the companies will contribute to develop interlocutors with competence to identify to new opportunities for partnerships (universities/industries), increasing the participation of the productive sector in cooperative projects, financed by governmental funds for innovation inducement. Figure 1 presents the expected relationships between the innovation nuclei and the other components of ceramic tile sector.

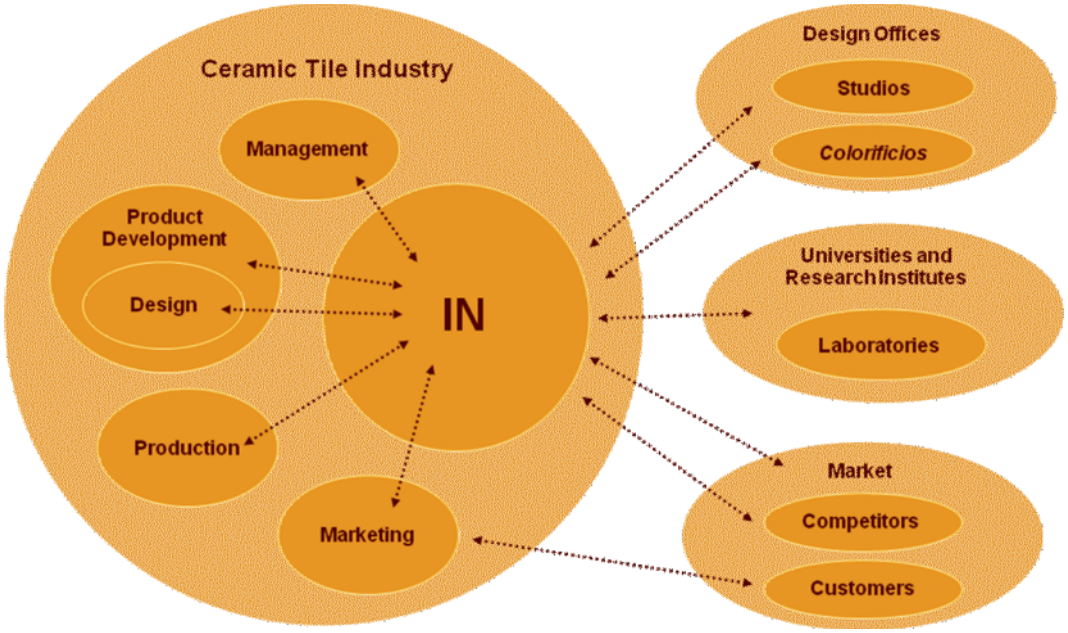

Figure 1. Relationships between innovation nuclei and other components of the ceramic tile sector.

2. INNOVATION NUCLEI DEVELOPMENT AND QUALIFICATION FRAMEWORK

The development of the IN inside the ceramic tile companies is a six-stage process:

1. Sensitization: this first stage aims to have the managers of the companies committed with the innovation process in their companies. The importance of the innovation for the competitiveness of the ceramic products is discussed

with the management representatives. The need for Innovation Nuclei inside the companies is emphasized.

2. Diagnostic: once the management agrees to start with an Innovation Program and the creation of Innovation Nuclei inside the company, all the necessary information necessary to support the creation of the IN is collected.

3. Qualification: before the IN are created, their possible future members are submitted to a well-structured qualification program. This qualification program approaches theoretical and practical aspects of three imperative areas of knowledge to the innovation in the ceramic tile sector: Product Development Management; Product Design (Style); and Materials Engineering – see figure 2.

Modules/Stages		Innovation and Strategic Product Development Management Qualification Program		
		Planning	Early Product Development	Detail Development + Prototype
Theory	Management	Classes	Classes	Classes
	Design/Style			
	Materials Engineering			
Practical Development		Experimental Development	Experimental Development	Experimental Development + Prototype
Work Presentation		Monograph and 1st Defence	Monograph and 2nd Defence	Monograph and 3rd Defence

Figure 2. Qualification Program framework.

4. IN Creation: based on the interest and performance of the employees that took part of the qualification program, Innovation Nuclei are formed inside each company that joined the Innovation Program. The management board should support the activities and decisions taken by the Innovation Nuclei.

5. Methods/Tools Deployment: during this stage, the members of the IN will work in order to create channels of knowledge transference between the universities and the ceramic tile companies.

6. Follow-up: in parallel to the last stage, the management board should follow-up the work of the members of the INs.

3. CONCLUSION

During the sensitization stage in the companies that we have chosen to work with, some difficulties were detected: the excess of fear from the management of the companies to sign formal agreements; the difficulty of some managers to understand the importance of innovation for the competitiveness of their products; fear about industrial secrecy; among others.

After the implementation of the Innovation Nuclei inside the companies, the university must verify, evaluate and try to validate the achieved results. This will allow

us to analyze the evolution of the investments in innovation, as well as to measure the benefits for the companies obtained from these innovations. This work, carried out on a constant and systematic way, allow the constant improvement of partnerships developed between universities and companies.

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