Regional Program STIC-AmSud
2016 Project Proposal (Research – Innovation)

Basic Form

- This form, and the associated CVs, must be filled in English. Before filling the form, please read carefully the bases published in the STIC-AmSud site (http://sticmathamsud.org/).
- This form must be sent in **.pdf** by email to the STIC-AmSud Secretariat (contacto@sticmathamsud.org) by the project's International Coordinator.

A. General Information

A1	**Project title**
	Digital service solutions for product-service systems

A2	**Acronym**
	DSS4PSS

A3	**Research domain**
	Digital transformation; Smart connected products; Digital service platforms; product-service systems; servitization.

A4	**Project goals**
	Main project goal: To establish an international research network on digital service solutions for product-service systems aiming to analyze the potential transformation of companies towards digital servitization based on the definition of a maturity model that consider organizational enabling and barrier factors, cooperation activities between stakeholders and industrial and regional conditions. *Specific project goals*: - To characterize digital services based on their orientation and possible application for customer needs as well as on the product and ICT infrastructure that give them support. - To define types of digital service useful for the PSS solution based on the companies' characteristics such as servitization strategy, company location, customer characteristics, among other aspects. - To define potential collaboration activities for digital service development in PSS solutions between ICT companies and traditional product companies (e.g. manufacturing, food, energy, etc.). - To establish a maturity model of digital service implementation in PSS development based on the integration of the aforementioned goals. - To develop additional competences and sub-products on digital service innovation (e.g. tools and methodologies) among the research partners in order to extend the knowledge domain of the international research network.

A5	Abstract
	Modern industrial trends like the Industry 4.0 concept have risen the concern of traditional companies on how to become digitalized in the several firm domains. One of this digital transformation domain is the related to product development and the way products are offered to the customers. Several companies are moving toward a servitization model where the value offering for the customers considers a product-service system (PSS) solution instead of simply pure product offering. In this sense, companies face a first challenge which is how to be capable to innovate in service and product jointly. However, a higher value potential in this joint innovation is given when the PSS solution is based on digital services, i.e. services based on internet platforms, such as apps, web platforms, smart connected products, among others. In this context, some questions emerge: (i) how to define digital services that traditional product companies might need? (ii) How to associate different digital services to different levels of servitization adopted by a firm? (iii) How to integrate information and communication technologies (ICTs) suppliers with product companies in order to develop joint digital services for the product offering? Based on these questions, the main goal of this project is to establish an international research network on digital service development (DSD) for product-service systems (PSS) aiming to analyze the potential transformation of companies towards digital servitization based on the definition of a maturity model that considers organizational enabling and barrier factors, cooperation activities between stakeholders and industrial and regional conditions. The project proposes working group activities in order to address the aforementioned research questions and to propose different solutions by considering the regional context of the three countries involved (Brazil, Argentina and France). The project also considers joint research activities among partners in order to develop new knowledge on DSD for PSS as well as to form new researchers (PhD and Post-doc) in this field.

A6	Scientific coordinators at each institution			
	South America A		**South America B**	
	Institution	Universidade Federal do Rio Grande do Sul – UFRGS (Brazil)	Institution	Universidad Nacional del Litoral – UNL (Argentina)
	Project coordinator	Prof. Dr. Alejandro G. Frank	Project coordinator	Prof. Dr. Germán Rossetti
	Address	Universidade Federal do Rio Grande do Sul, Escola de Engenharia, Av. Osvaldo Aranha 99 - Sala LOPP 508 - 5º andar, Centro, 90035190 - Porto Alegre, RS - Brazil	Address	Universidad Nacional del Litoral, Facultad de Ingeniería Química. Santiago del Estero 2829, Santa Fe, S3000, Santa Fe, Argentina.
	Phone/Fax	+55 51 33083490	Phone/Fax	+ 54 342 4571164 (int. 2589)
	Email	frank@producao.ufrgs.br	Email	groseti@fiq.unl.edu.ar
	France A		**France B**	
	Institution	G-SCOP Lab - Institut polytechnique de Grenoble (INPG)	Institution	
	Project coordinator	Prof. Dr. Marie-Anne Le Dain	Project coordinator	
	Address	46 Avenue Félix Viallet, 38031 Grenoble, France.	Address	
	Tel/Fax	04 76 57 48 16	Tel/Fax	
	Email	marie-anne.le-dain@grenoble-inp.fr	Email	

A7	Other participating institutions	
	In South America NO.	**In France** Grenoble IAE (Prof. Dc Valéry Merminod) as integrant of the French team from INPG/G-SCOP Lab

A8	List of expected participants (name and affiliation and status: junior, senior)
	Brazilian team (UFRGS): Prof. Alejandro G. Frank (Brazilian coordinator) Prof. Márcia Echeveste (senior professor) Prof. Maria Auxiliadora Cannarozzo Tinoco (associate professor) Néstor Fabián Ayala (post-doc researcher; junior) Carolline Amaral Paslauski (PhD candidate; junior) Guilherme Brittes Benitez (PhD candidate; junior) Érico Marcon (Master candidate; junior) Lucas Santos Dalenogare (Master candidate; junior) **Argentinian team (UNL):** Prof. Germán Rossetti (Argentinian coordinator) Prof. Leticia M. Arcusin (associate professor) Melisa de Greef (PhD candidate; junior) Daniela Ferreira Campos (PhD candidate; junior) **French team (G-SCOP Lab- INPG):** Prof. Marie-Anne Le Dain (French coordinator) Prof. Valéry Merminod (senior professor) Prof. Lilia Gzara (senior professor) Yassine Talas (PhD candidate; junior) Lamiae Benyanoun Sadafiyine (post-doc researcher, junior) 2 Master candidates from October 2017, junior

A9	International Project Coordinator (to be chosen among the Scientific Coordinators mentioned in A6)
	Prof. Dr. Alejandro G. Frank (UFRGS, Brazil)

B. Project Details

B1. Project guidelines

a) **Research Context:** Two main industrial trends: the Servitization of industrial firms and the enterprise digitalization in the context of the Industry 4.0.

b) **Research Questions:** i) how to define digital services that traditional product companies might need? (ii) How to associate different digital services to different levels of servitization adopted by a firm? (iii) How to integrate information and communication technologies (ICTs) suppliers with product companies in order to develop joint digital services for the product offering?

c) **Main Goal:** To establish an international research network on digital service development (DSD) for product-service systems (PSS) aiming to analyze the potential transformation of companies towards digital servitization based on the definition of a maturity model that considers organizational enabling and barrier factors, cooperation activities between stakeholders and industrial and regional conditions.

d) **Specific Goals:** Five specific goals or objectives are proposed.

e) **Research Method:** A mix-methods approach is proposed based in six main research stages and approaches.

f) **Research activities:** During the project, it is proposed five short missions per year, five of them for junior researchers and five for senior researchers.

g) **Expected products:** Six products, four papers for international journals and two industrial reports.

B2. Project description

a. Context/Motivation:

Two main industrial trends are the context and motivation of this project, one is the Servitization of industrial firms and the other is the enterprise digitalization in the context of the Industry 4.0. Servitization refers to the strategic movement of several manufacturing companies toward a new business model where services are added to the product offering or where products are delivered as services (Brax and Visintin, 2016; Kohtamaki et al., 2013), configuring different levels of complexity of the so-called product-service system (PSS) solutions. On the other hand, this road toward servitization has been growingly supported by digitalization of services or even by including digital service functions into the products (smart products). Digital service solutions (DSS) are delivered through a connected 'platform' organized or obtained by digital transactions (information, software or goods) based on internet protocol (IP) (Lerch & Gotsch, 2015a; Williams, Chatterjee, & Rossi, 2008). In this sense, Industry 4.0 related information and communication technologies (ICTs) such as big data, cloud computing and internet of things are essential, since they operate as an interface between product and digital services.

These modern industrial trends have risen the concern of traditional companies on how to become digitalized in the several firm domains, including the product development and PSS offering. In this sense, companies face a first challenge which is how to be capable to innovate in service and product jointly. By the adoption of a digitalized PSS strategy, changes may be needed in the manufacturing supply chain configuration and coordination while new partners become relevant for the PSS offering and for sharing and reducing the associated business uncertainties and risks (Paiola et al., 2013; Saccani et al., 2014). In this sense, there is a lack of understanding on how companies can involve potential service and digital technologies suppliers in a servitization strategy and how these suppliers can contribute with their knowledge to better face a digital servitization (Chirumalla, 2013; Hakanen, 2014; Leoni, 2015; Martinez et al., 2010; Reim et al., 2015; Windahl and Lakemond, 2006). This is a first motivation of the project, based on real theoretical and practical needs of this topic.

Additionally, the motivation of the project comes from the managerial implications generated by this subject. A recent study conducted by PWC (2016) on the digital transformation reports that 52% of the 2,216 business and technology executives surveyed consider that their organizations require still changes to profit from digital technology investment and 80% of the respondents identified opportunities to digitize their enterprise as a critical part of their innovation process. The executives reveal that they need to rethink how to define and deliver digital initiatives, consider employee and customer interactions at every step of the way, invest in training and culture, and much more. This is another clear motivation for

this project, which is based on the companies' perception of the new trends and needs they have to face in the industry. Consequently, the project seeks to develop a more comprehensive understanding of how drive the potential transformation of companies towards digital servitization.

b. Research questions of the project:

RQ1: How to define digital services that traditional product companies might need?

RQ2: How to associate different digital services to different levels of servitization adopted by a firm?

RQ3: How to integrate information and communication technologies (ICTs) suppliers with product companies in order to develop joint digital services for the product offering?

RQ4: How to measure the maturity of a firm to introduce digital services in their PSS offer?

c. Main goal:

To establish an international research network on digital service development (DSD) for product-service systems (PSS) aiming to analyze the potential transformation of companies towards digital servitization based on the definition of a maturity model. This model considers organizational enabling and barrier factors, cooperation activities between stakeholders and industrial and regional conditions to identify the appropriated practices that a firm need to master for the success of its digital service implementation. The maturity model will take into account the different type of digital services and the different situation of servitization adopted by the firm.

d. Specific goals (SG):

SG1: To characterize digital services based on their orientation and possible application for customer needs as well as on the product and ICT infrastructure that give them support.

SG2: To define types of digital service useful for the PSS solution based on the companies' characteristics such as servitization strategy, company location, customer characteristics, among other aspects.

SG3: To define potential collaboration activities for digital service development in PSS solutions between ICT companies and traditional product companies (e.g. manufacturing, food, energy, etc.).

SG4: To establish a maturity model of digital service implementation in PSS development based on the integration of the aforementioned goals.

SG5: To develop additional competences and sub-products on digital service innovation (e.g. tools and methodologies) among the research partners in order to extend the knowledge domain of the international research network.

e. Research Methods (RM):

The project follows a sequential mix-methods approach, based on an evolutionary view of the project and the respective need of each stage:

RM1: Systematic review of the literature. This initial stage aims to develop a conceptual framework to classify digital service types and their association with different products. It aims also to identify from previous literature the practices, the success factors and barriers induced by digital service in PSS.

RM2: Industrial case studies. This research method will be used for exploratory qualitative data collection in companies that offer digital services and in ICTs providers. The Brazilian team has a partnership with the ICTs companies' association of the State of Rio Grande do Sul, where this research will be conducted. Moreover, the Argentinian and French partners will be mainly focused on product companies that are facing a digital service transformation. This research strategy will allow to enlarge the understanding of different enabling factors and barriers and practices for the implementation of digital service solutions for PSS.

RM3: Quantitative survey. The qualitative results will support the theoretical base for the development of a quantitative survey aiming the theoretical validation of the exploratory findings as well as to obtain more information about other companies' characteristics on digitalization. Initially, it is confirmed the application of this survey with the ICT's providers by means of the ICTs companies' association. The

project intent also to gather quantitative data from the companies that provide digitalized PSS solutions. However, this depends on achieving a minimum sample size in the three countries, which will be clearer after the conduction of the industrial case studies. This quantitative survey will serve also to identify what are the best practices that a firm needs to master to be mature according the characteristics of digital service and the situations of servitization.

RM4: Qualitative focus group. This approach consists in a working day meeting between some of the participants of the project and some key-industrial representatives. The aim is to discuss the results obtained and to elaborate a final framework for the types digital services solutions that are viable for different PSS solutions. This activity will also consider the coordination aspects between buyers and suppliers of ICT's for the PSS digitalization. The framework proposed to build the maturity model (process areas with associated practices and, maturity dimensions and levels) will be discussed with the practitioners.

RM5: Solutions development. It considers the activities for the proposition and development of a maturity model by using the results obtained in previous stages and organizing them according to the stages of maturity of the companies in PSS. Additional packages such as software for the maturity evaluation can be developed, depending on the project schedule and additional effort required.

RM6: Joint meetings and interaction between the researchers. Each stage of the project considers strong interaction among the partners by means of students exchange, virtual and personal meetings. This aims to foster knowledge sharing among the partners in order to consolidate the scientific knowledge on the topic among the partners.

f. Contribution of the participating institutions:

UFRGS (Brazil) – It is the central actor of the network since this research group has previous collaboration experience with the other two partners (INPG and UNL). The research group has strong contact with industrial associations (e.g. ICTs association, Automation and Control association, among others). This research group has large experience in quantitative data analysis, especially in survey research, which is one of the research methods that will be used. The group has also the largest number of Master, PhD and postdoc candidates of the network.

G-SCOP Lab/ INPG (France) – This research group has previous experience in collaboration with South America (UFRGS and UFRN, both in Brazil). The partners of this group have strong activity with large companies based in France (mainly from the energy management and electro mechanic sector) but also with SMEs that are open to this group for research activities on the project theme. The main competences of this research group related to the project are two: professors Marie-Anne Le Dain and Valéry Merminod are experts in qualitative research, inter-organizational collaborative product development management and knowledge sharing and development of maturity grid, while prof. Lilia Gzara is an expert in systems engineering and software architecture.

UNL (Argentina) – This research group has large experience in South America research networks, since they are one of the representatives of the Iberoamerican Network of Project Engineering. This helps the research project to access to companies from this network. The research group has experience in product development management in the food and agroindustry sectors, which will be used for data collection. Moreover, as far as we know, this is the first group in Argentina that is focusing attention on PSS and digital services and, therefore, they will be the reference of this research line in this country.

g. Project scope

Since the offering of digital service solutions is still very limited in emerging markets like Brazil and Argentina, the project will perform a cross-industry data collection, not restricted to any specific sector. On the other hand, from the digital service supplier, the project will consider any ICT company that is capable to provide service solution for other industrial firms.

Regarding the digital service domain, the project is delimitated to studying the possible offerings and existing solutions. However, the project does not intend to develop new digital services or any digital technology to this aim.

Considering locational characteristics such as culture, economy, social aspects, etc., the scope of this project comprehends three very different contexts (France/Europe, Argentina and Brazil) that will be considered and that controlled in the case of quantitative data analysis. Regarding the data collection from France, the project will consider the European scope, since most of the companies that will be studied in France are strongly participating in several markets of the European Union.

h. Expected results (RES)

The expected results are based on the main methodological stages. Following we describe the main research papers aimed for international journals. However, it is expected to obtain subproducts (partial versions) from these results for conference papers.

- Paper 1 (RES1): Systematic review of the literature on characterization of digital services
- Paper 2 (RES2) : Systematic review of the literature on key success factors barriers and practices related to the introduction of digital service in PSS
- Paper 3 (RES3): Results from the cross-case analysis (three countries)
- Paper 4 (RES4): Results from the quantitative survey – Digital service suppliers' characteristics.
- Paper 5 (RES5): Development of the maturity model.
- Industrial report 1 (RES6): Results from the qualitative focus group.
- Industrial report 2 (RES7): Resume of findings of the global project.

The next table shows the relationships between the research questions, specific objectives, research method and expected results.

Table 1 – Relationship between research questions, objectives, methods and results of the project

		Research Questions				Research Methods					
		RQ1	RQ2	RQ3	RQ4	RM1	RM2	RM3	RM4	RM5	RM6
Specific Goals	SG1	X			X	X	X				X
	SG2	X			X		X	X	X		X
	SG3			X			X	X	X		X
	SG4		X		X	X	X	X	X	X	X
	SG5	X	X	X	X					X	X
Expected Results	RES1					X					X
	RES2					X					X
	RES3						X				X
	RES4							X			X
	RES5									X	X
	RES6								X		X
	RES7								X		X

B3. Schedule, with main execution stages

Table 2 presents the schedule of the project. Moreover, we also attach in this section a schematic representation of the interaction proposed among the international partners (Figure 1).

Table 2 – Schedule with main execution stages.

	First year (2018)											
Activities (Research Methods)	**Jan**	**Fev**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Set**	**Oct**	**Nov**	**Dez**
RM1: Systematic review of the literature	X	X	X	X	X	X						
RM2: Industrial case studies						X	X	X	X	X		
RM3: Quantitative survey										X	X	X
RM4: Qualitative focus group												
RM5: Solutions development												
RM6: Joint meetings and interaction between the researchers			1			2				3		
	Second year (2019)											
Activities (Research Methods)	**Jan**	**Fev**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Set**	**Oct**	**Nov**	**Dez**
RM1: Systematic review of the literature												
RM2: Industrial case studies												
RM3: Quantitative survey	X	X										
RM4: Qualitative focus group	X	X	X	X	X							
RM5: Solutions development						X	X	X	X	X	X	
RM6: Joint meetings and interaction between the researchers		4				5					6	

Table references - Main meetings and interaction between the researchers

1- Team meeting at UNL (Argentina) to discuss first results of the review, to refine the the review and to plan the case studies
2 - Team meeting at INPG (France) to organize the case studies activities for the next five months.
3- Videoconference team meeting to present the case studies results and to refine the quantitative data collection procedures
4- Videoconference team meeting to present the quantitative data collection and analysis and to refine the planning of the focus group.
5- Team Meeting at INGP (France) to discuss the results of the focus group and to develop the initial framework for the maturity model.
6- Final team meeting for the assessment of the results, refinement of the papers and planning of future joint research activities.

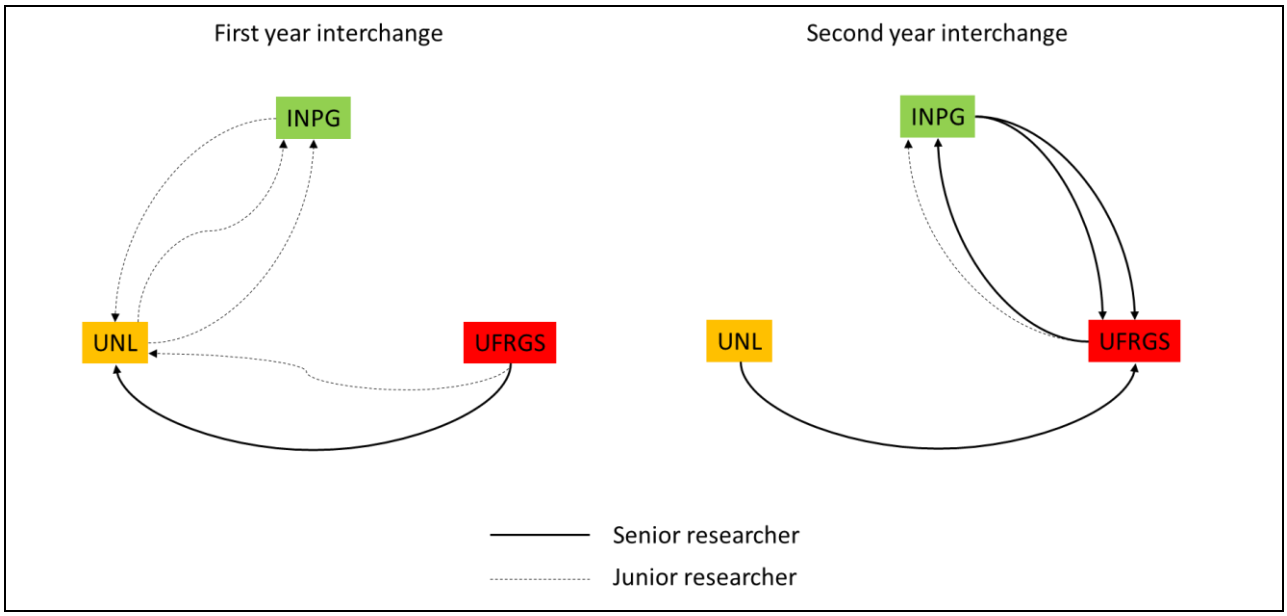

Figure 1 - Schematic representation of the interaction among the international partners

B4. Contributions

a) Contributions for theory

It is expected that the project results will help to understand how different sets of services can be related to different strategic approaches of the companies regarding the PSS level of implementation. This will clarify the limits of integration between products and digital services. Moreover, another contribution is that this research will investigate different ways of cooperation between ICT suppliers, service companies and product companies, showing the dynamics of cooperation, knowledge sharing and potential synergy that can be obtained from such a cooperation among partners.

b) Contributions for practitioners

The project will provide results that have direct managerial implications for companies, since it will provide tools that companies can use for the improvement of their digitalized PSS. Moreover, companies

will participate in the case studies, surveys and focus groups and they will be received the industrial reports showing them a benchmarking of the participants. It is intended that this may provide feedbacks for the companies so that they can have the opportunity to improve their PSS process.

c) Contribution for the research partners

The project considers the interchange of five junior researchers. This is planned in order to form new researchers in the related topics to this project. Moreover, the project contributes for the maintenance of the cooperation between INPG and UFRGS as well as between UNL and UFRGS, while it approximates UNL and INPG as new partners for future joint projects. In this sense, the two most industrialized countries of South America are included in the project together with France, and this aims to develop a knowledge base in this country of new global industrial trends. Therefore, the main contribution of this project is to develop a new network among these groups with a strong knowledge-base on digital services for PSS in the servitization strategy of industrial firms.

d) Role of each partner and the integration among partners

UFRGS (Brazil). It is the central actor of the integration, since this research group has prior collaboration experience with both INPG (France) and UNL (Argentina). The research group has skills on quantitative methods and on Servitization which will be very useful for the cooperation.

INPG (France). It is the French actor and a very respectable technical institution in the country. This research group is the most experienced one of the partners in international cooperation and, therefore, they will help to manage the integration. The group has skills related to qualitative methods and ICT tools, which are needed for the cooperation.

UNL (Argentina). It is the second partner in South America. This group has a long experience in Latin America research networks and in the organization of regional events of research network. They will provide support for the regional events of the group. In addition, this group has skills related to product development management, which are necessary for the project theoretical framework.

B5. Regional Aspects

The complementarity of the specific objectives and the research methods adopted in this project will require a high level of interaction between researchers.

In addition, as previously mentioned the motivation of the project is based on real theoretical and practical needs of this topic. Consequently, the research results proposed in this project need to be develop with a close collaboration with industrial partners.

B6. Institutions and CVs of coordinators

Description of each participating institution, and curriculum vitae of each participant (maximum 2 pages per participant).

Universidade Federal do Rio Grande do Sul (UFRGS). Department of Industrial Engineering. Organizational Engineering Center (NEO-UFRGS). This department has the best PhD program of Brazil. The university is one of the strongest of the country and is based in the main city of one of the most industrialized regions. The representative of this institution in the project is Prof. Alejandro G. Frank, who is the research director at NEO-UFRGS (see CV in Appendix 1).

Institut polytechnique de Grenoble (INPG), G-SCOP Lab. This institute is one of the strongest engineering school in France. G-SCOP Lab (UMR CNRS 5272) is one of the best-known research center in France in design and Optimization of manufacturing/service systems and has long tradition in the collaborative design and ICT domain. It is based in a strong academic region, where several top universities are located. The representative of this institution in the project is Prof. Marie-Anne Le Dain, a senior researcher and professor of this institution (see CV in Appendix 2).

Universidad Nacional del Litoral (UNL), Department of Industrial Engineering. This is a very traditional institution in Argentina, located in the central region of the country, near other strong industrial regions like Buenos Aires, Córdoba and Rosario. The region is strong in the agroindustry activity and several agroindustry machinery companies are located there. The representative of this institution in the project is Prof. Germán Rossetti, a senior researcher and professor of this institution (see CV in Appendix

3).

B7. Additional information

- List all the complementary fundings expected or already obtained.

Possible future applications can be made to the Brazilian Program Capes/Cofecub (*Comitê Francês de Avaliação da Cooperação Universitária com o Brasil*).

- Experience of the coordinators in similar projects.

a) The French and the Brazilian coordinators had a previous joint experience in a 3-years international cooperation program (2015-2017) between both research groups ('Digital collaborative conception for customer-supplier integration', founded by FAPERGS, in Brazil and INRIA-CNRS in France.

b) The Argentinian and the Brazilian coordinators had a previous joint experience in the Iberoamerican Network of Project Engineering (RIIPRO), focused on the organization of international and regional seminars and conferences of different trend topics in project management. This project was founded by the Argentinian Ministry of Science and Technology for two years (2014 and 2016).

- Main activities and their relationship with the project's main goal.

Table 1 presented in Section B2 showed the relationship between the project activities (RM) and all the specific goals (SG), which attend the project´s main goal.

- Perspectives of continuing collaboration after project financing is over.

This is the second international project proposed between some of the partners (INPG-UFRGS and UNL-UFRGS), which shows the willing of cooperation and the intentions of continuing this activities in the future. The perspective is to continuing this collaboration by means of professors and students exchange using appropriate funds to this aim.

B8. International referees

Suggest names of at least 3 international referees to evaluate the project. These researchers should not be connected to people in the project.

1- Tim C. McAloone – Prof. at Technical University of Denmark. Expert in Engineering Design and Product Development. E-mail: tmca@dtu.dk

2- Henrique Rozenfeld – Prof. at Universidade de São Paulo. Expert in Product-Service Systems and Product Development Management. E-mail: roz@sc.usp.br

3-Prof Bernard Yannou at Centrale Supélec. Expert in Product optimization. E-mail: bernard.yannou@ecp.fr

Names of referees who should <u>not</u> review this project in your opinion (optional)

There are not restrictions.

B9. Public and private support obtained related to the project:

Previous project STIC AMSUD / MATH AMSUD?
NO

If YES, indicate the code, the year and the name of the project:
Not applicable.

Other public support in the past (ECOS, COFECUB, CNRS, European Union, etc.):
FAPERGS – INRIA/CNRS international cooperation project (2015-2017).

Other private support in the past:
NO

Prospects for public or private support in the future:
Possible interest on the project by the ICT companies' association of the State of Rio Grande do Sul.

C. Project Budget

Project title: Digital service solutions for product-service systems (DSS4PSS)

Participating institutions: UNL (Argentina), UFRGS (Brazil) and INPG (France)

The STIC-AmSud program **funds travel expenses** (air tickets and *per diem*) to researchers in research missions and workshops.

C1. First year (2018)

Planned missions – Year 1

Researcher	Status (student, junior, senior)	Institution	Origin	Destination	Planned date	Duration (max. 30 days)	Estimated cost of the trip (€)	Estimate of total *per diem* (€)[1]	Trip and Mission funding institution[2]	Mission objectives
Alejandro Frank	Senior	UFRGS	Porto Alegre	Santa Fe	19/03/2018	7	€ 500,00	€ 1.678,98	CAPES	Team meeting at UNL (Argentina) to discuss first results of the review, to refine the second part of the review and to plan the case studies
Carolline Paslauski	Junior	UFRGS	Porto Alegre	Santa Fe	19/03/2018	7	€ 500,00	€ 1.678,98	CAPES	Team meeting at UNL (Argentina) to discuss first results of the review, to refine the second part of the review and to plan the case studies
Former researcher	Junior	INPG	Paris	Santa Fe	19/03/2018	7	€ 1.600,00	€ 1.008,00	CNRS	Team meeting at UNL (Argentina) to discuss first results of the review, to refine the second part of the review and to plan the case studies
Ms. Leticia Arcusin	Junior	UNL	Santa Fe	Paris	11/06/2018	7	€ 1.600,00	€ 2.324,74	MINCYT	Team meeting at INPG (France) to organize the case studies activities for the next five months.
Melisa De Greef	Junior	UNL	Santa Fe	Paris	11/06/2018	7	€ 1.600,00	€ 2.324,74	MINCYT	Team meeting at INPG (France) to organize the case studies activities for the next five months.

[1] Maintenance costs are different for each partner due to the reference value used by the funding institution
[2] Each institution will pay for the trip and per diem of its own researchers.

C2. Second year (2019)

Planned missions – Year 2

Researcher	Status (student, junior, senior)	Institution	Origin	Destination	Planned date	Duration (max. 30 days)	Estimated cost of the trip (€)	Estimate of total *per diem* (€)[3]	Trip and Mission funding institution[1]	Mission objectives
Alejandro Frank	Senior	UFRGS	Porto Alegre	Paris	15/06/2019	7	€ 1.100,00	€ 2.389,31	CAPES	Team Meeting at INGP (France) to discuss the results of the focus group and to develop the initial framework for the maturity model.
Érico Marcon	Junior	UFRGS	Porto Alegre	Paris	15/06/2019	7	€ 1.100,00	€ 2.389,31	CAPES	Team Meeting at INGP (France) to discuss the results of the focus group and to develop the initial framework for the maturity model.
Germán Rossetti	Senior	UNL	Santa Fe	Porto Alegre	15/11/2019	7	€ 500,00	€ 2.066,43	MINCYT	Final team meeting for the assessment of the results, refinement of the papers and planning of future joint research activities.
Marie-Anne Le Dain	Senior	INPG	Paris	Porto Alegre	15/11/2019	7	€ 1.300,00	€ 1.512,00	CNRS	Final team meeting for the assessment of the results, refinement of the papers and planning of future joint research activities.
Valery Merminod	Senior	INPG	Paris	Porto Alegre	15/11/2019	7	€ 1.300,00	€ 1.512,00	CNRS	Final team meeting for the assessment of the results, refinement of the papers and planning of future joint research activities.

[3] **Maintenance costs are different for each partner due to the reference value used by the funding institution**

CONSOLIDATED BUDGET: Year 1

Funding requested to the STIC-AmSud Program
Estimated costs (€)

	A. Travel costs (air tickets)	B- Maintenance costs (*per diem*) [4]	TOTAL
CNRS France	€ 1.600,00	€ 1.008,00	**€ 2.608,00**
MINCYT Argentina	€ 3.200,00	€ 4.649,47	**€ 7.849,47**
CAPES Brazil	€ 1.000,00	€ 3.357,95	**€ 4.357,95**
Total requested funding to STIC-AmSud	€ 5.300,00	€ 9.015,43	**€ 14.315,43**
Other funding[5]	--	--	--
TOTAL	**€ 5.800,00**	**€ 9.015,43**	**€ 14.815,43**

Do you have additional funding sources for this project[6]? (if so please specify the amount and source (s)).

NO.

[4] **Maintenance costs are different for each partner due to the reference value used by the funding institution**
[5] Specify in additional page.
[6] Reserved for CNRS researchers

C2. Second year (2019)

Second year funding depends on approval of intermediate progress report.

Planned missions – Year 2

Researcher	Status (student, junior, senior)	Institution	Origin	Destination	Planned date	Duration (max. 30 days)	Estimated cost of the trip (€)	Estimate of total *per diem* (€)[7]	Trip and Mission funding institution[1]	Mission objectives
Alejandro Frank	Senior	UFRGS	Porto Alegre	Paris	15/06/2019	7	€ 1.100,00	€ 2.389,31	CAPES	Team Meeting at INGP (France) to discuss the results of the focus group and to develop the initial framework for the maturity model.
Érico Marcon	Junior	UFRGS	Porto Alegre	Paris	15/06/2019	7	€ 1.100,00	€ 2.389,31	CAPES	Team Meeting at INGP (France) to discuss the results of the focus group and to develop the initial framework for the maturity model.
Germán Rossetti	Senior	UNL	Santa Fe	Porto Alegre	15/11/2019	7	€ 500,00	€ 2.066,43	MINCYT	Final team meeting for the assessment of the results, refinement of the papers and planning of future joint research activities.
Marie-Anne Le Dain	Senior	INPG	Paris	Porto Alegre	15/11/2019	7	€ 1.300,00	€ 1.512,00	CNRS	Final team meeting for the assessment of the results, refinement of the papers and planning of future joint research activities.
Valery Merminod	Senior	INPG	Paris	Porto Alegre	15/11/2019	7	€ 1.300,00	€ 1.512,00	CNRS	Final team meeting for the assessment of the results, refinement of the papers and planning of future joint research activities.

[7] **Maintenance costs are different for each partner due to the reference value used by the funding institutions**

CONSOLIDATED BUDGET: Year 2

Funding requested to the STIC-AmSud Program
Estimated costs (€)

	A. Travel costs (air tickets)	B- Maintenance costs (*per diem*)[8]	TOTAL
CNRS France	€ 2.600,00	€ 3.024,00	**€ 5.824,00**
MINCYT Argentina	€ 500,00	€ 2.066,43	**€ 2.566,43**
CAPES Brazil	€ 2.200,00	€ 4.778,63	**€ 7.178,63**
Total requested funding to STIC-AmSud	€ 5.300,00	€ 9.869,06	**€ 15.569,06**
Other funding[9]	--	--	--
TOTAL	**€ 5.300,00**	**€ 9.869,06**	**€ 15.169,06**

Do you have additional funding sources for this project[10]? (if so please specify the amount and source (s)).

NO.

[8] **Maintenaince costs are different for each partner due to the reference value used by the funding institution**
[9] Specify in additional page.
[10] Reserved for CNRS researchers

C3. BUDGET TOTALS

	Year 1	**Year 2**	**Total [1]**
Funding requested to CNRS (France)	€ 2.608,00	€ 5.624,00	€ 8.232,00
Funding requested to MINCYT (Argentina)	€ 7.849,47	€ 2.566,43	€ 10.415,91
Funding requested to CAPES (Brazil)	€ 4.357,95	€ 6.978,63	€ 11.336,58
Matching funds from the partners	**€ 14.815,43**	**€ 15.169,06**	**€ 29.984,49**
Other sources	--	--	--
TOTAL	**€ 14.315,43**	**€ 15.569,06**	**€ 29.884,49**
[1] Total costs are different for each partner mainly due to the reference value used by the funding institution			

APPENDIX

Model CV (maximum 2 pages)

1/ Personal data
Name: Alejandro Germán Frank
Birth date: 04/08/1983
Professional address (with telephone and e-mail): Universidade Federal do Rio Grande do Sul, Av. Osvaldo Aranha 99 - Sala LOPP 508 - 5º andar, Centro, 90035190 - Porto Alegre, RS - Brazil. Phone: +55 51 3308 3490. E-mail: frank@producao.ufrgs.br

Current job title and size of the research group:
- Associate professor, Researcher level of the National Council for Research and Technology (CNPq – Brazil) and Research Director at NEO (Núcleo de Engenharia Organizacional). Size of the research group (NEO): 12 researchers (3 PhD candidates, 4 master candidates, 5 research auxiliaries).

2/ Highest obtained degree (with indication of place and date):
- PhD in Industrial Engineering (Universidade Federal do Rio Grande do Sul, November of 2012), with sandwich PhD at Politecnico di Milano (Italy).

3/ Professional activity in the last 5 years
- Research director - NEO (Núcleo de Engenharia Organizacional) – May 2013 – currently
- Coordinator of the undergraduate course (Industrial Engineering), March 2016 – currently
- Journal editor: Revista Produto & Produção, April 2014 – currently
- Journal reviewer (currently): European Journal of Innovation Management; Revista Produção; Information & Management (Amsterdam); International Journal of Production Research; Knowledge Management Research and Practice; R&D Management; International Journal of Quality and Reliability Management; Industrial Management + Data Systems; Journal of Engineering and Technology Management; Journal of Knowledge Management.
- Vice-coordinator Industrial Engineering undergraduate course, March 2015 – February 2016

4/ Other duties/ positions
None.

5/ Awards, fellowships and external recognition
- 2017 Best Track Paper Award at EPPGEP-ANPEPRO conference.
- 2016 Best Track Paper Award at IX Simposio Internacional de Ingenieria Industrial, SIII-Red4
- 2014 Best Track Paper Award at 3th CIKI conference
- 2013 Best PhD thesis award, Brazilian Association of Industrial Engineering.
- 2012 Emerald/CLADEA Management Research Fund Award – Best research project.
- 2013 CNPq Post-doc fellowship
- 2012 CNPq Sandwich PhD fellowship at Politecnico di Milano, Italy.
- 2009 – 2012 CNPq PhD fellowship at UFRGS, Brazil.
- 2007 – 2009 CAPES Master in Engineering fellowship at UFRGS, Brazil
- 2002 – 2007 MCyT fellowship for best performer students in Engineering, Argentina

6/ Ongoing funded research projects with dates, titles, sources of funding
- March 2016 – February 2019. Knowledge transfer between stakeholders for servitized business model transformation. Fund source: CNPq (Brazilian Council for Research).
- October 2015 – October 2018. Digital collaborative conception for customer-supplier integration. Fund source: FAPERGS (RS State Research Council) / INRIA-CNRS.

7/ Projects approved in the least 5 years
- June 2013 – May 2016. Knowledge transfer models adapted to different organizational structures. Fund source: CNPq (Brazilian Council for Research).
- February 2013 - January 2014. Improvement of the knowledge transfer models used in new product development. Fund source: CNPq (Brazilian Council for Research).

8/ Publications

8.1 – Highlight the most important publications related to the project theme

AYALA, N. F.; PASLAUSKI, C. A.; GHEZZI, A.; **FRANK, A. G.** Knowledge sharing dynamics in service suppliers' involvement for servitization of manufacturing companies. **I.J. of Production Economics**, forthcoming, 2017.

PASLAUSKI, C.A.; AYALA, N.F.; PEZZOTTA, G.; GAIARDELLI, P.; FRANK, A.G. Services Extending Products: a comparative analysis in emerging and developed countries, **Procedia CIRP,** forthcoming, 2017.

LIMA, M. J. R. F. ; MARCON, A. ; **FRANK, A. G**. . The ICTs moderating effect on the LPD impact on performance. In: 2017 Industrial and Systems Engineering Conference, 2017, Pittsburgh. **Proceedings of the 2017 Industrial and Systems Engineering Conference**, 2017.

LIMA, M. J. R. F. ; ENRIQUE, D. V. ; **FRANK, A. G.** . ICT use in customer-supplier relationship for collaborative NPD: literature review. In: 2017 Industrial and Systems Engineering Conference, 2017, Pittsburgh. **Proceedings of the 2017 Industrial and Systems Engineering Conference**, 2017.

FRANK, A. G.; CORTIMIGLIA, M. N.; RIBEIRO, J. L. D.; OLIVEIRA, L. S. The effect of innovation activities on innovation outputs in the Brazilian industry: Market-orientation vs. technology-acquisition strategies. **Research Policy**, v. 45, p. 577-592, 2016.

AYALA, N. F.; PASLAUSKI, C. A.; RIBEIRO, J. L. D.; **FRANK, A. G.** An Analysis of Buyer-supplier Integration for Servitization Strategies. **Procedia CIRP**, v. 47, p. 388-393, 2016.

PASLAUSKI, C. A.; AYALA, N. F.; TORTORELLA, G. L. ; **FRANK, A. G**. . The Last Border for Servitization. **Procedia CIRP**, v. 47, p. 394-399, 2016.

CORTIMIGLIA, M. N.; GHEZZI, A.; **FRANK, A. G.** . Business model innovation and strategy making nexus: evidences from a cross-industry mixed methods study. **R & D Management** (Print), v. 46, p. 414-432, 2015.

GHEZZI, A.; CORTIMIGLIA, M.N.; **FRANK, A.G.** Strategy and business model design in dynamic telecommunications industries: A study on Italian mobile network operators. **Technological Forecasting & Social Change**, v. 90, p. 346-354, 2014.

8.2 – Publications in cooperation with the project partners

TALAS, Y.; GZARA, L.; LE DAIN, M.; MERMINOD, V.; **FRANK, A.G.** Which are the limitations of ICT tools for collaborative design with suppliers? ICED17 21st International Conference on Engineering Design, Toronto. **Proceedings of the ICED17**, 2017.

PASLAUSKI, C. A.; Le DAIN, M.; MERMINOD, V.; GZARA, L.; **FRANK, A. G.** Enabling Knowing in Practice in collaborative NPD through ICT. In: 24th International Innovation and Product Development Management Conférence (IPDMC), 2017, Reykjavik. **Proceedings of the 24th IPDMC**, 2017.

AYALA, N. F. ; ENRIQUE, D. V.; Le DAIN, M.; MERMINOD, V.; **FRANK, A. G.** The intensity of use of ICT tools for collaborative NPD with suppliers. In: 24th Innovation and Product Development Management Conference (IPDMC), 2017, Reykjavik. **Proceedings of the IPDMC**, 2017.

9/ Theses oriented and post-doctoral fellows supervised

9.1 – Finished/defended in the last 5 years

Daisy Valle Enrique. 2017; Fellipe Gomes Marques de Faria. 2017; Carolline Amaral Paslauski. 2016; Vanessa Becker Bertoni. 2016 ; Filipe Fagundes. 2015.

9.2 – Ongoing

PhD thesis : Guilherme Benitez (2017) ; Carolline Paslauski (2016); Néstor F.Ayala (2015) ; Adriana dos Reis (2014).

Master thesis: Érico Marcon (2017) ; Lucas Dalenogare (2017) ; Mateus José do R.F.Lima (2016) ; Akie Yoshioka (2016) ; Matheus Kleber (2015).

APENDIX

Model CV (maximum 2 pages)

1/ Personal data
Name: Marie-Anne Le Dain
Birth date: 03/10/1962
Professional address (with telephone and e-mail): Grenoble Institute of Technology, 46 Avenue Félix Viallet 38031 - Grenoble - France. Phone: +33 04 7657 4816. E-mail: marie-anne.le-dain@grenoble-inp.f

Current job title and size of the research group:
- Associate Professor of Industrial Engineering and Management at Grenoble Institute of Technology / Laboratory G-SCOP. Size of the research group: 4 researchers (3 PhD candidates and 1 Master student).

2/ Highest obtained degree (with indication of place and date):
- HDR (French professional thesis to supervise PhD) in Industrial Engineering & Management at Grenoble Institute of Technology, Grenoble, France - 2015

3/ Professional activity in the last 5 years
- Associate Professor of Industrial Engineering and Management at Grenoble Institute of Technology / Laboratory G-SCOP - 2002 – currently
- Visiting Professor at the University of Bath – 2011 - 2012

4/ Other duties/ positions
- Current. Reviewer of International Journal of Production Research, Enterprise Information Systems, Journal of Engineering Design, International Journal of Manufacturing Technology and Management, Technovation and Revue Française de Gestion.
- 2017 to currently. Founding member and moderator with Prof Thomas Johnsen (Polytechnic University of Milan) of the IPSERA Single Interest Group "Supplier and innovation" (1srt workshop scheduled in April during IPSERA 2017 Conference).
- 2014 to currently. Scientific leader of WP2 of the Project 'Absorptive Capacity for Innovation in Companies' (ACIC), project ANR Renouveau Industriel coordinated by CERAG.
- 2011 to currently. Founding member and Conference Chair of the workshop PUBLISH-ED to foster Publication in Engineering Design with the support of the Design Society.
- 2010 to currently. Representative of the G-SCOP laboratory in the INNOVACS Research Federative Structure.
- 2007 to currently. Member appointed to the Scientific Council of the G-SCOP laboratory to represent the research team of Conception Collaborative.

5/ Awards, fellowships and external recognition
- 2009 The PRAXIS project received the Gold Medal of the 2009 Purchasing Decision Trophies, under the heading "Quality and Innovation Purchasing". This project was selected from 107 finalists by a jury composed of 9 Purchasing Directors from large groups.

6/ Ongoing funded research projects with dates, titles, sources of funding
- 2015 to 2018 Franco-Brazilian Cooperation Project CODIF – Digital collaboration with suppliers in product development process. Cooperation with UFRGS of Porto Alegre, Brazil - Case studies with 3 companies: Alstom and A.Raymond (France) and Massey Fergusson (Brazil). Project Initiator and Leader for G-SCOP, G-SCOP funding 130k€
- 2014 to 2017 National Research Project ACIC – Absorptive Capacity of SMES embedded in Collaborative Networks for Innovation – ANR Industrial Renewal. Project conducted by 3 French Research Centers: CERAG – Management Science (Project Coordinator with INNOVACS), LIG – Information Science, G-SCOP Industrial engineering and Management, with the participation of the University of Bradford and Liverpool, and 2 French companies (IXIADE and Thesame). The project is supported by 3 French Business and Research clusters
Leader for G-SCOP, Global funding 570k€, G-SCOP funding 130k€.

7/ Projects approved in the least 5 years

- 2013 to 2016. Research Project with Schneider-Electric – Supplier involvement process in service and product development. Project co-developed with CERAG (Research Center in Management Science). Coordinator: G-SCOP. Project Initiator and Leader for G-SCOP, funding 180k€.
- 2010 to 2013. National Research Project RISK – Risk analysis for collaboration with suppliers in design. Project leaded by G-SCOP with CERAG (French research Center in management Science) and SOMFY (French Company). Project Initiator and Leader for G-SCOP, funding 140 k€.
- 2006 to 2012. Research Project PRAXIS – Performance in Relationships Adapted to eXtended Innovation with Suppliers. Project funded by 7 French companies, leaded by G-SCOP and Thésame, developed with CERAG and supported by the French Business and research cluster. Project Initiator and Leader for G-SCOP, funding 200k€.

8/ Publications

8.1 – Highlight the most important publications related to the project theme

Le Dain, M.-A. And Merminod, V. A Knowledge Sharing Framework for Black, Grey and White Box Supplier Configurations in New Product Development: an exploratory analysis, Technovation, available online 7 October 2014. DOI: 10.1016/j.technovation.2014.09.005

Le Dain, M.-A., Calvi, R., and Cheriti, S., 2011. Measuring supplier performance in collaborative design: Proposition of a framework, R&D Management, 41 (1), 61-79. DOI: 10.1016/j.pursup.2010.03.010

Le Dain, M.-A., Calvi, R., and Cheriti, S., 2011. Proposition of a Tool to Evaluate Customer's Performance in Collaborative Product Development with Suppliers, International Journal on Interactive Design and Manufacturing, 5(2), 73-83. DOI : 10.1007/s12008-010-0112-6

Le Dain, M.-A., Calvi, R., and Cheriti, S., 2010. Developing an approach for Design-or-Buy-Design decisionmaking, Journal of Purchasing and Supply Management, 16(2), 77-87. DOI: 10.1016/j.pursup.2010.03.010

8.2 – Publications in cooperation with the project partners

TALAS, Y.; GZARA, L.; LE DAIN, M-A.; MERMINOD, V.; **FRANK, A.G.** Which are the limitations of ICT tools for collaborative design with suppliers? ICED17 21st International Conference on Engineering Design, Toronto. **Proceedings of the ICED17**, 2017.

PASLAUSKI, C. A.; LE DAIN, M-A.; MERMINOD, V.; GZARA, L.; **FRANK, A. G.** Enabling Knowing in Practice in collaborative NPD through ICT. In: 24th International Innovation and Product Development Management Conférence (IPDMC), 2017, Reykjavik. **Proceedings of the 24th IPDMC**, 2017.

AYALA, N. F.; ENRIQUE, D. V.; LE DAIN, M-A.; MERMINOD, V.; **FRANK, A. G.** The intensity of use of ICT tools for collaborative NPD with suppliers. In: 24th Innovation and Product Development Management Conference (IPDMC), 2017, Reykjavik. **Proceedings of the IPDMC**, 2017.

9/ Theses oriented and post-doctoral fellows supervised

9.1 – Finished/defended in the last 5 years

PhD thesis: Matthieu YAGER (2016); Hélène PERSONNIER (2013).
Master thesis: Martha-Stefany CARRASQUILLA (2016); Gabriela Julieta CALVA (2016); Yassine TALLAS (2015); Elahe MALEKI (2015); Lamiae SADAFIYINE (2014); Matthieu YAGER (2013); Mohammed ZTAT (2013).

9.2 – Ongoing

PhD thesis: Yassine TALLAS (2018); Lamiae SADAFIYINE (2017); Julien CHICOT (2017).
Master thesis: Luis Alberto MENDONZA QUEVEDO (2017).

APENDIX

Model CV (maximum 2 pages)

1/ Personal data
Name: Germán Horacio Rossetti
Birth date: 16/03/1965
Professional address (with telephone and e-mail): Universidad Nacional de Litoral, Santiago del Estero 2829, 4th floor – Office II, Santa Fe, Argentina. Phone: +54 342 4571164 - int. 2589. E-mail: groseti@fiq.unl.edu.ar

Current job title and size of the research group:
- Associate Professor at UNL
- Professor of the postgraduate course Product Development Process Management
- Coordinator of the research group on Product Development Management. Size of the research group: 4 researchers (2 PhD candidates, 2 Associate Research Professor researchers) and 3 auxiliary research students per year.

2/ Highest obtained degree (with indication of place and date)
- PhD in Chemical Engineering (Universidad Nacional de Litoral, August of 2001).

3/ Professional activity in the last 5 years
- Director of the Department of Industrial Engineering, Faculty of Chemical Engineering, UNL. November 2007 – November 2015.
- Counselor for the Teaching Staff, Faculty of Chemical Engineering, UNL. February 2009 – November 2010.
- Academic Coordinator, Faculty of Chemical Engineering, UNL. Feb. 2009 – Nov. 2013.
- Coordinator of the graduation project of Industrial Engineering (Final Project). February 2006 – currently.
- Journal reviewer (currently): Iberoamerican Journal of Project Management; Iberoamerican Journal of Industrial Engineering

4/ Other duties/ positions
None

5/ Awards, fellowships and external recognition
- 2015 – currently. Vice-President of the Ibero-American Network of Project Engineering (RIIPRO).
- 2002 – 2004. CONICET (Argentina), Post-doc fellowship.
- 1998 – 2002. UNL (Argentina), PhD fellowship.

6/ Ongoing funded research projects with dates, titles, sources of funding
- February 2017 – December 2017. Strengthening of the Iberoamerican Network of Project Engineering in Argentina, Brazil and Uruguay (RIIPRO-ABU). Fund source: Secretariat of University Policies, Government of Argentina.
- October 2016 – October 2019. Intervention Projects to Improve Product Development Process Management in Small and Medium Food Producing Companies. Fund source: National Agency for Scientific and Technological Promotion, Government of Argentina (BID)
- May 2017 – May 2020. Methodologies Study for improve Product Development Process Management at Food Industries. Fund source: Universidad Nacional del Litoral.

7/ Projects approved in the least 5 years
- June 2009 – June 2013. Designing a Transformation Model for local Small and Medium Enterprises (SMEs) for Product Development Process (PDP) Improvement. Fund source: Universidad Nacional del Litoral.
- June 2009 – June 2013. Models and Strategies for Procedures Optimization in Technological Based Organizations. Fund source: Universidad Nacional del Litoral.
- September 2013 – December 2016. Management Model Design for Product Development in Small and Medium Food Producing Companies. Fund source: National Agency for Scientific and Technological Promotion, Government of Argentina (BID).

- February 2015 – December 2015. Iberoamerican Network of Project Engineering, Argentina, Brazil and Uruguay (RIIPRO-ABU). Secretariat of University Policies, Government of Argentina.

8/ Publications

ARCUSIN, L.; ROSSETTI, G. Management System for Product Development Process for Small and Medium Enterprises which Produces Drugs. **International Journal of Research and Reviews in Applied Sciences**, Vol. 13, Nº 2, 2012.

ARCUSIN, L.; ROSSETTI, G. Optimization of an Inventory System in a Drug Company. **Iberoamerican Journal of Industrial Engineering**, Vol 4, Nº 8, 2012.

ROSSETTI, G.; ARCUSIN, L. Levels of Maturity of the Management of the Process of Product Development in SMEs Drug Manufacturers. **Iberoamerican Journal of Project Management,** Vol. 3, Nº 1, 2012.

ARCUSIN, L.; ROSSETTI, G. Intervention Project for Product Development Process Management Applied to Small and Medium Enterprises which Produce Drugs. **International Journal of Research and Reviews in Applied Sciences**, Vol. 16, Nº 1, 2013.

ROSSETTI, G.; GIRAUDO, F.; MURER, P.; ARCUSIN, L. Comparative Analysis of Product Development Process Management Models. **American Journal of Industrial Engineering**, Vol. 2, Nº 1, 2014.

ARCUSIN, L.; ROSSETTI, G. Analysis of the Product Development Process Management in Food Production Companies. **Iberoamerican Journal of Project Management**, Vol. 5, Nº 1, 2014.

ROSSETTI, G; ARCUSIN, L.; GIRAUDO, F.; MURER, P. Comparative Study of Food Development Process Management Models. **Iberoamerican Journal of Project Management**, Vol. 5, Nº 1, 2014.

DE GREEF, M.; ARCUSIN, L.; ROSSETTI, G. Tools Description for Product Development Process Management in Food Industries. **International Journal of Research in Engineering and Technology**, Vol. 3, Nº 11, 2014.

ARCUSIN, L.; ROSSETTI, G.; QUIROGA, O. Optimization of the Raw Materials Inventory Systems in a Company which Produces Sweets. **Iberoamerican Journal of Industrial Engineering**, Vol. 7, Nº 14, 2015.

DE GREEF, M.; ROSSETTI, G.; ARCUSIN, L. Product Development Process in Food Industries: Tools Management Analysis in Post-Development Stage. **International Journal of Research and Reviews in Applied Sciences**, Vol. 26, Nº 2, 2016..

ROSSETTI, G.; GORGO, R.; TORREZ, M.; ARCUSIN, L.; DE GREEF, M. Optimization of the Project Management Process in a Packaging Company. **Iberoamerican Journal of Project Management**, Vol. 7, Nº 1, 2016.

DE GREEF, M.; ARCUSIN, L.; ROSSETTI, G. Comparative Analysis of Product Development Process Management at Food Industries. **International Journal of Research and Reviews in Applied Sciences**, Vol. 30, Nº 3, 2017.

9/ Theses oriented and post-doctoral fellows supervised

9.1 – Finished/defended in the last 5 years

Leticia Arcusin (2011)

9.2 – Ongoing

PhD thesis: Melisa De Greef (2014), Daniela Ferreira (2017)