



RESET
Interreg Europe



**Research Centers of
excellence in the
textile sector
Action Plan AITEX**

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Action Plan - AITEX

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1. General Introduction

1.1 Aim of the RESET project

European textile and clothing sector is one of the most relevant economical source for the EU, accounting for 4% of the total added value of the manufacturing sector, with 173.000 companies and a turnover of 165 billion €. Its competitiveness is linked to increased investments in innovation and research both public and private which are key drivers for European companies to lead the market in the coming years. Due to its enormous environmental impact, sustainability and environment-friendly production is emerging as a new driver of textile process, product innovation and technology development. The overall objective of the project is to generate a policy change in the implementation of regional policies and programmes of the Structural Funds related to the strengthening of research, technological development and innovation to assure the sustainability of the T&C sector in the partner regions. It will be achieved through policy learning and capacity building activities on public policies supporting innovative, green and sustainable T&C production and processes. The learning potential embedded in **interregional exchange** will result in the **uptake of new Good Practices and projects by the partner regions** enabling to support excellence in R&D, to promote investments by enterprises, to develop innovative skills of T&C stakeholders, and in a deeper integration between research and innovation policies for the sector's sustainability. Sustainability driven research and innovation will concern primarily the production processes and product development and addresses **six key themes**:

- Recycling in textile and waste disposal
- Water consumption and energy saving, sustainable company organisations
- New sustainable chemistry, including reduction of chemical substances
- Smart textiles and new ways of production
- Eco-creativity, natural fibres, short value chains
- New materials and new applications

1.2 Objective of the Action Plan

An action plan in general is a sequence of steps that must be taken or activities that must be performed successfully for a strategy to succeed. An action plan has three major elements:

- (1) Specific tasks: what will be done and by whom.
- (2) Time horizon: when will it be done.
- (3) Resource allocation: what specific funds are available for specific activities.

Produced by each region, the action plan of RESET project is a document providing details on how the lessons learnt during the project and from the cooperation with other partners and regions will be exploited in order to improve the policy instrument tackled within that region. It specifies the nature of the actions to be implemented, their timeframe, the players involved, occurring costs and potential funding sources.

1.3 Regional Analysis of partners regions

1.3.1 Valencian Region Summary

The Valencian Region has a surface of 23.255 km² representing the 4.6% of Spain with a population of 5.117.190 (10.8% of Spanish total population) and generates 93.155,8 million of € (9.5% of Spain) data from 2014 (source INE). The Valencian Region has an industry based economy which represent the 9.6% of Spain. The companies allocated in Spain are divided as follows: small company represents the 83.77% (11.52% comparing it with Spain), medium companies represent the 15.8% (15.25% comparing with Spain) and big companies represents 0.44% (9.29% comparing with Spain).

The Valencian Region counts with 14 Institutes with revenues of 122 million € and 7 universities with 125.000 students. The 14 centers have a specialized range of research, technological and innovation advanced services, addressed to business, mainly oriented to SME. They developed more than 1.041 R&D&I projects, have over 6.200 associated companies and 1.700 professionals and researchers.

Main sector and technologies coming from the Valencian Region are: ceramics, building, wood, furniture and related industries, optics, colour and imaging, toys, metalmechanics, plastics, agro-food, textile, biomechanics, footwear, energy, packaging, transport and logistics and computing. Some sectorial strategies are: advanced manufacturing, automotive and mobility industries, food for the future, quality of life, and enabling sectors as smart energy and clean technologies. *Source: Data obtained from IVACE 2015.*

1.3.2 Valencian textile sector analysis

Some figures of the market of the T&C Valencian Region in 2016-17: there are 2.303 textile companies, creates 16.314 employments with revenues of 1.865 million of € and an added value of 672 million €. It is also important to mention that the exportation of this sector is around 765 million € and importation of 842 million €.

Trends: of the Valencian Region and expertise of T&C companies

- Protective Clothing: such as boots, gloves, helmets, protective jackets and other products with applications in different risk environments are researched by the institute to improve their properties and to ensure that they meet or exceed legislation and perform their function with ever-greater guarantees.
- Medical and Hospital Textiles: there is a wide range of textile-based health care products available on the market and there products must comply with the legislation which regulates health care products; we perform research into reusable or single-use surgical textiles such as gowns, cloths and clean-air suits that do not produce dust and prevent the passage of fluids that have been contaminated by microorganisms. Other groups of textiles regulated are gauzes, bandages, dressings, plasters, sticking tapes and sutures, with special properties such as acidity/alkalinity, fluorescence, deformability, microbiological control, etc.
- Composites material: biocomposites obtained from raw materials that come from renewable sources. The properties of these composites are in many cases similar to those of products obtained from petroleum derivate resins and traditional supports. Therefore, a gradual substitution for the latter is expected. The development of thermoset resins curing technologies through the use of electromagnetic radiation (MW and UV) came from many successful investigations in recent year. The employment of such technologies

allows to drastically reduce cycle times, lower emissions of volatile organic compounds, and decrease the amount of scrap from composite material parts.

2. Action Plan

2.1 PART I – GENERAL INFORMATION

Project: RESET – RESEARCH CENTERS OF EXCELLENCE IN THE TEXTILE SECTOR

Partner organization: AITEX

Other partner organisations involved (if relevant): ATEVAL, CONSELLERIA, IVACE

Country: SPAIN

Country (NUTS1) ESTE

Region (NUTS2) COMUNIDAD VALENCIANA

City (NUTS3) ALICANTE/ ALACANT

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2.2 PART II – POLICY CONTEXT

The Action Plan aims to impact:

- ⊖ **Investment for Growth and Jobs programme**
- ⊖ European Territorial Cooperation programme
- ⊖ Other regional development policy instrument

Name of the policy instrument addressed: ERDF REGIONAL OPERATIONAL PROGRAMME 2014-2020 OF VALENCIAN REGION

2.3 PART III – DETAILS OF THE ACTION ENVISAGED

ACTION 1: MONITOR THE IMPLEMENTATION OF APPROVED PROJECTS WITH EDRF FUNDS

1. **The background** (Please describe the lessons learnt from the project that constitute the basis for the development of the present Action)

1.1 Context

Keeping in mind IFEDes stakeholder study developed during Phase 1 with the collaboration of AITEX, the analysis performed in these textile companies from Valencian Region revealed they usually participate in projects dealing with the 6 Themes of RESET project; mainly waste recovery and waste reduction, water consumption, energy reduction and use of new materials and applications thematic.

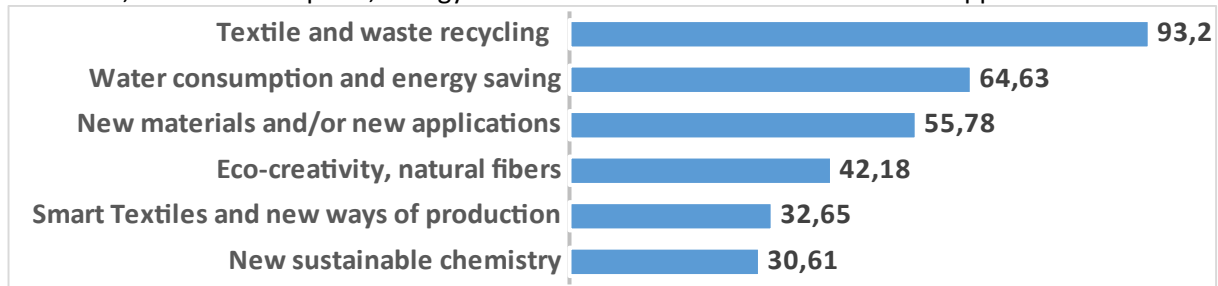


Figure 1: Relation of Themes which Valencian textile companies develop industrial projects. Source: IFEDes Stakeholder study develop for AITEX during RESET Phase 1 (Data in %)

In addition, Valencian companies also attribute importance to the new sustainable chemistry. Smart textiles and eco-creativity are the less preferent Themes to develop projects.



Figure 2: Ranking of the importance of Themes for Valencian textile companies. Source: IFEDes Stakeholder study develop for AITEX during RESET Phase 1.

Also coming from the feedback collected in the survey performed by AITEX's stakeholder IFEDES, main limitations of textile Valencian companies to participate in new projects focused on sustainability and innovation are:

- Funding/grants (economic reasons),
- the lack of qualified personnel,
- lack of knowledge in order to be more sustainable and
- economic reasons.

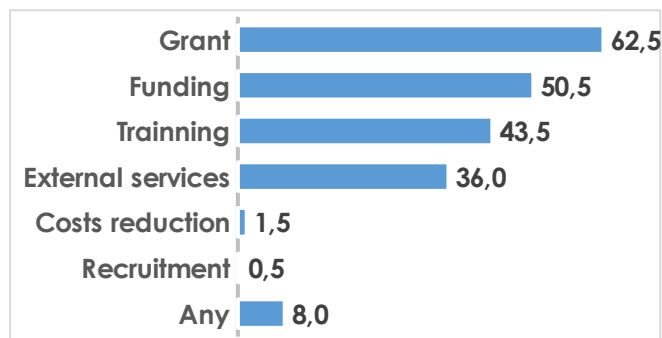


Figure 3: Currently limitations in Valencian textile companies to adopt innovations in sustainability, including development of new projects. Source: IFEDES Stakeholder study develop for AITEX during RESET Phase 1.

Because of this and in the frame of RESET project and its 6 Themes, AITEX (supported by its stakeholders) has started to push to promote building and submission of industrial projects by Valencian textile companies. Since mid-2017 to mid-2018 6 projects were launched by Valencian textile companies in the frame of RESET Themes and inspired by different RESET good practices.

Taking into account, on the one hand, the expectations of the Valencian Textile companies and their limitations and on the other hand, the work done during phase 1, know-how and expertise gained during the 6 different ILEs performed in RESET, the 59 GPs shared in these events and the interregional exchange learning, 6 projects have been submitted and approved by Spanish National/Regional Authorities inspired or based of a specific regional GP shared by RESET partners.

1.2 Relevance to the project

The main outputs and previous actions coming from RESET interregional exchange execution which have inspired the presentation of new projects comes from the following thematic:

1. Policy Theme 2: Water consumption and energy savings, sustainable company organization.
2. Policy Theme 3: New sustainable chemistry, including reductions of chemical substances.
3. Policy Theme 6: New materials and new applications.

And the following activities:

- Policy learning events organised (thematic seminars and policy brokerages) in:
 - Vila Nova de Famalicão (Portugal) on January 2017.
 - Bucharest (Romania) on April 2017.
 - Huddersfield (Britain) on January 2018.
- Good practices identified:
 - GP “Multiplexed Laser Surface Enhancement – MLSE”
 - GP “Detox: from threat for brands to opportunity for labs and manufacturers”
 - GP “Sustainable chemistry method to improve the wash-off process of reactive dyes on cotton”
- Staff exchange events
 - Between TCoE partner and AITEX in UK on June 2018.

- Stakeholder meetings:
 - Meeting organised in Valencia on January 2017 in which Jeanologia stakeholder participated.
 - Meeting organised in Alcoy on March 2017 in which UPV and COLORCENTER stakeholders participated.
 - Meeting organised in Alcoy on September 2017 in which UPV stakeholder participated.
 - Meeting organised in Terrasa on March 2018 in which COLORCENTER stakeholder participated.

More information about the relevance of the outcomes of phase 1 RESET execution as well as the link to the projects submitted and approved with ERDF funds have been detailed in point 2.

2. Action (Please list and describe the action to be implemented)

The action 1 to be implemented will be the monitoring of the execution of the 6 launched and approved projects, previously submitted by Valencian textile companies.

Valencian textile companies leading the projects have been supported by AITEX and by RESET project stakeholders depending on the thematic in order to increase their capacities, develop new products or research in new processes.

During the execution of the projects the following activities (or sub-actions) are needed in order to monitor and follow the implementation of the projects:

1. Continuous meeting between companies, stakeholders and AITEX.
2. Internal reporting to follow-up the activities performed.
3. Official reports to the National/regional Authorities.
4. Official meeting with National/regional Authorities.
5. Post-project monitoring and needs for industrialisation of the results.

Below it has been detailed the current 6 approved projects, the call to which they have been submitted, the date of submission, date of approval and the link to RESET project:

PROJECT 1	New processes for the preparation and finishing of fabrics for contract						
Company	Industrias Bitex	Call	CDT PDI	Date of submission	October 2017	Date of approval	25/01/2018
Link to RESET project	<p>The project was based on: The GP “Multiplexed Laser Surface Enhancement- MLSE” which claims for dry finishing processes. At technical level this was very interesting for the SME and has been implemented in the submitted project. Moreover, the possibility to work only with gasses, not chemical products was also included in the proposal.</p> <p>During the Staff Exchange event organised by TCoE in which AITEX participated, AITEX’s staff had the opportunity to learn more about the technology in order to help the company during the execution of the project and also discovered another issue that was also worked within the proposal: the research on ozone gas for the preparation of fabrics.</p> <p>AITEX worked with the Stakeholder Jeanologia to study the possibility of ozone for the preparation of fabrics and after a positive feedback the company decided to include this during the implementation of the project as well as to submit the project.</p>						
Expected results	New improved and sustainable production process for the company						

PROJECT 2	W-FREE. Development of new spinning processes for fashion and home textile						
Company	Hilaturas Ferre	Call	CDT PDI	Date of submission	May 2017	Date of approval	26/06/2017
Link to RESET project	<p>The project was based on: The GP "Multiplexed Laser Surface Enhancement- MLSE" and the dry finishing processes. During the Policy Brokerage performed by AITEX, TCoE which works with MLSE technology at semi-industrial scale informed about the use of CO2 gas as one of the raw materials for dry finishing processes. Moreover, the state of the art performed by AITEX after the Technical Seminar provided some information about innovative dyeing processes using CO2 AITEX worked with the stakeholder UPV in order to know the possibilities of finishing with CO2 (e.g. for dyeing). After studying the feasibility of the process, it was presented to the company which decided to submit the project.</p>						
Expected results	New improved and sustainable production process for the company						
PROJECT 3	JEANSTRACK - R&D in the application of the look jeans to the sport technical clothing						
Company	Dadayp	Call	IVACE. I+D PYME	Date of submission	May 2017	Date of approval	22/12/2017
Link to RESET project	<p>The project was based on: The GP "Detox: from threat for brands to opportunity for labs and manufacturers" (Technical Seminar 3) . Further information was provided by Municipality of Prato and its stakeholder during the Policy Brokerage event. The regional project submitted by Dadayp with the collaboration of AITEX aims at using fluorine-free compounds on jeans finishing. DETOX GP and the collaboration of the Italian partners as well as the collaboration of the stakeholder COLORCENTER, providing some information about the sustainability of these compounds, were the key to submit the proposal.</p>						
Expected results	New sport articles with new a new look. The company aims at launching the first collection to the market.						
PROJECT 4	Research and development of new products with eco-sustainable finishing for the leather sector						
Company	INPELSA	Call	CDTI PDI	Date of submission	June 2018	Date of approval	28/09/2018
Link to RESET project	<p>The company was interested in reducing the use of chemical products during the production of leathers. The knowledge and information taken from the Thematic Seminar 3 served as inspiration to focus the Regional project. The project was based on: The GP "Detox: from threat for brands to opportunity for labs and manufacturers" (Technical Seminar 3). During the Policy Brokerage event, a meeting was organised with the Municipality of Prato and its stakeholder in order to learn a bit more about the GP presented. The most important issues that were interesting for INPELSA, were the benefits of controlling and substituting some chemicals used during the production of the leathers, not only in terms of sustainability and reduction of chemical pollutants, but also in terms of social responsibility. In addition, AITEX performed a state of the art after the Technical Seminar about the possibilities of new finishing technologies on leather. By these reasons, the company decided to submit the project.</p>						
Expected results	New leathers by using eco-sustainable technologies						
PROJECT 5	BLENDYE - New textile dyeing process for blended threads						
Company	MOLTO	Call	CDTI PDI	Date of submission	May 2018	Date of approval	28/09/2018
Link to RESET project	<p>The project was based on: The GP "Sustainable chemistry method to improve the wash-off process of reactive dyes on cotton" presented by the partner TCoE in Technical Seminar 3. In addition, further information was provided by TCoE during the Policy Brokerage event was very useful to understand the GP and it was taken as the basis for the submitted project: mixture of dyes and modified washing-off methods on dyed cotton yarns are implemented in it.</p>						
Expected	New improved and sustainable production process for the company						

results							
PROJECT 6	New heatable textiles for hometextiles (contract sector)						
Company	RESUINSA	Call	CDTI PDI	Date of submission	July 2018	Date of approval	28/11/2018
Link to RESET project	The regional project was focused on heatable textiles which was the main topic of the GP ACCLYTEXSYS presented by CITEVE. During the Policy Brokerage event CITEVE explained in more detail this GP, and under its opinion, possibilities to develop heatable textiles for hometextiles (contract sector) with the same basis of the GP project was feasible. AITEX performed further technical analysis in order to evaluate the feasibility of the idea, and after some meetings with RESUINSA, the project was finally submitted.						
Expected results	New heatable textiles for home textile subsector						

The calls through which it has been achieved the policy change are: CDTI PDI and IVACE PIDI-CV I+D PYME.

CDTI PDI is a national call for submitting industrial R&D projects. Partial funding of projects comes from the Spanish Plurirregional FEDER Operational Programme – POPE 2014 – 2020, which is supported with regional funds. In the case of Valencian region, these regional funds come from the ERDF Operational Programme 2014-2020 for Valencian Community, which is the policy instrument addressed.

IVACE PIDI-CV I+D PYME is a regional (Valencian) call for submitting industrial R&D projects. Partial funding directly comes for FEDER funds (ERDF Operational Programme 2014-2020 for Valencian Community), which is the policy instrument addressed.

3. Players involved (Please indicate the organisations in the region who are involved in the development and implementation of the action and explain their role)

PROJECT 1	New processes for the preparation and finishing of fabrics for contract						
Players involved	CONSELLERIA, CDTI, T&C COMPANY (INDUSTRIAS BITEX), JEANOLOGIA, AITEX						
PROJECT 2	W-FREE. Development of new spinning processes for fashion and home textile						
Players involved	CONSELLERIA, CDTI, T&C COMPANY (HILATURAS FERRE), UPV, AITEX						
PROJECT 3	JEANSTRACK - R&D in the application of the look jeans to the sport technical clothing						
Players involved	CONSELLERIA, IVACE, T&C COMPANY (DADAYP), COLORCENTER, AITEX						
PROJECT 4	Research and development of new products with eco-sustainable finishing for the leather sector						
Players involved	CONSELLERIA, CDTI, T&C COMPANY (INPELSA), AITEX						
PROJECT 5	BLENDYE - New textile dyeing process for blended threads						
Players involved	CONSELLERIA, CDTI, T&C COMPANY (MOLTO), AITEX						
PROJECT 6	New heatable textiles for hometextiles (contract sector)						
Players involved	CONSELLERIA, CDTI, T&C COMPANY (RESUINSA), AITEX						

4. Timeframe

As the last running project of the first 6 submitted and approved in the frame of RESET ends in Dec'19, AITEX considers that the monitoring of the post-project and needs for industrialisation of results will be extended six months after the end of this last project.

	PROJECTS	EXECUTION (Start date – End Date)
1	New processes for the preparation and finishing of fabrics for contract	10-10-2017 29-03-2019
2	W-FREE. Development of new spinning processes for fashion and home textile	01-06-2017 30-11-2018
3	JEANSTRACK - R&D in the application of the look jeans to the sport technical clothing	01/01/2017- 30/06/2018
4	Research and development of new products with eco-sustainable finishing for the leather sector	01/06/2018- 30/08/2019
5	BLENDYE - New textile dyeing process for blended threads	31-05-2018 31-05-2019
6	New heatable textiles for hometextiles (contract sector)	19-07-2018 31-12-2019

Then, timeframe of this Action 1 is:

Start date 01/04/2019

End date 30/06/2020.

5. Costs and funding sources

	PROJECTS	COSTS	FUNDING SOURCES (ONLY ERDF FUNDS)
1	New processes for the preparation and finishing of fabrics for contract	446.088,00€	56.876,09€
2	W-FREE. Development of new spinning processes for fashion and home textile	342.767,00 €	42.345,44€
3	JEANSTRACK - R&D in the application of the look jeans to the sport technical clothing	66.816,37€	26.725,54€
4	Research and development of new products with eco-sustainable finishing for the leather sector	308.671,00€	34.706,97€
5	BLENDYE - New textile dyeing process for blended threads	340.487,00€	40.797,15€
6	New heatable textiles for hometextiles (contract sector)	330.176,00€	40.007,43€

ACTION 2: SUBMISSION AND PRESENTATION OF NEW PROJECTS

1. The background (Please describe the lessons learnt from the project that constitute the basis for the development of the present Action)

AITEX's core mission is to create technical know-how and transfer this knowledge to textile manufacturers to help them become more competitive, create more value and allow them access to new business opportunities. For this reason, RESET project is being a good opportunity for AITEX to transfer the work done to the Valencian textile companies and to submit projects that are achieving the policy change.

AITEX will continue during 2019, 2010 and 2021 offering T&C companies the knowledge acquired during the interregional learning experience of RESET project. Projects to be submitted will be focused on the 6 Thematics worked in RESET project. **This is and important issue, as last of first 6 new projects based on GPs coming from RESET ends at December 2019. Then AITEX will continue pushing the Valencian Textile companies to submit new projects based on RESET: it means that implementation and monitoring of new projects will continue after December 2019.**

In fact, 4 new projects have been proposed to companies during the period October 2018 – March 2019, and it's expected to launch more in the timeframe of this action 2. They will be implemented and monitored in the same way than the 6 previous projects already funded with ERDF funds.

2. Action (Please list and describe the action to be implemented)

The action 2 to be implemented is to help Valencian textile companies to build and submit new industrial R&D projects.

Taking into account, on the one hand, the expectations of the Valencian Textile companies and their limitations and on the other hand, the work done during phase 1, know-how and expertise gained during the 6 different ILEs performed in RESET, the 59 GPs shared in these events and the interregional exchange learning, 6 projects have been submitted and approved by National/Regional Authorities inspired or based of a specific regional GP shared by RESET partners.

Valencian textile companies leading the new projects are going to be supported by AITEX and by RESET project stakeholders depending on the thematic in order to increase their capacities, develop new products or research in new processes.

The scope of the new projects to be submitted will be focused on the use new and sustainable technologies, techniques and knowledge worked within RESET execution.

The calls through which it is going to be achieved the policy change are: CDTI PDI and IVACE PIDI-CV I+D PYME.

CDTI PDI is a national call for submitting industrial R&D projects. Partial funding of projects comes from the Spanish Plurirregional FEDER Operational Programme (50%) – POPE 2014 – 2020, which is supported with regional funds. In the case of Valencian region, these regional funds come from the ERDF Operational Programme 2014-2020 for Valencian Community, which is the policy instrument addressed.

IVACE PIDI-CV I+D PYME is a regional (Valencian) call for submitting industrial R&D projects. Partial funding directly comes for FEDER funds (ERDF Operational Programme 2014-2020 for Valencian Community), which is the policy instrument addressed.

These sub-actions will be developed in order to submit the new projects

1. Analysis of each specific GP at technical level and the possibility of application to Valencian Textile Companies (general trends in the textile industry, previous developments, technology level of the company, etc.).
2. Meeting with Stakeholders involved in each ILE as experts of the specific thematic.
3. Proposal and presentation of the GP to the companies willing to participate.
4. Study of the Regional /national call to be submitted the proposal (CDTI PDI or IVACE PIDI-CV I+D PYME)
5. Selection of the final applicant, elaboration of the proposal and final submission.
6. Execution and monitoring of the project with the collaboration of AITEX and RESET Stakeholders depending on the thematic.
7. Post-project monitoring and needs for industrialisation of the results.

3. Players involved (Please indicate the organisations in the region who are involved in the development and implementation of the action and explain their role)

INDUSTRIAL ASSOCIATIONS OF VALENCIAN REGION, T&C COMPANIES, CONSELLERIA, AITEX'S STAKEHOLDERS, IVACE and CDTI.

4. Timeframe

Start date: 01/04/2019

End date: 31/03/2021

5. Costs and funding sources

Information not available yet.

3. Summary

RESET project has given the opportunity to AITEX to transfer to Textile and Clothing (T&C) companies of the Valencian Region, new knowledge, techniques and technologies learnt during the Phase 1 (Interregional Learning Process).

For AITEX, the most important output obtained has been the opportunity to participate in a strong network of European research centers and public authorities with wide knowledge in different fields of activity in relation with the Textile and Clothing sector. This network has given all partners de opportunity to share their knowledge and transfer it to the stakeholders and companies to strength the sector.

All activities performed in RESET project have been important, from the policy learning events organised (thematic seminars and policy brokerage) to the staff interchange.

Apart from AITEX, around 110 entities (universities, research centers, regional authorities, companies) have taken benefit from the project through the direct collaboration in RESET activities: participation in seminar, stakeholder meetings, collaboration in the GPs.

As a result, 6 projects have been submitted and approved by Spanish National/Regional Authorities inspired or based of a specific regional GP shared by RESET partners that are achieving the policy change. These 6 projects will be monitored until they finish (as part of the action 1 of this plan), and new R&D projects inspired by RESET will be submitted and launched as part of action 2.