



A Technological Resource Center  
regarding the food processing industry





- At the moment, the center AGIR is :
- One of the most important Centers for research and food processing innovation in Aquitaine
- A link between new technologies and SMEs
- A support for the training of students and professionals by putting its infrastructure facilities and its managerial staff at their disposal.

### **1.1.2 An evolution towards quality**

On April 10<sup>th</sup> 1998, AGIR was given the title of TRC (Technological Resource Center) to provide services and skills suited to the customer's needs. Every 3 years, an organization (AFNOR) checks that the TRC is in accordance with the quality-label. To become a TRC, a company must be an independent entity, that is to say that it must have a name, an accounting and a corporate image ; the firm must be able to rely on scientific and technical structures and must work mainly for SMEs and SMIs. The main requirements to meet in order to get the quality-label TRC are:

- to provide tailor-made services to deal with the customer's problem
- to use all the means that are necessary to reach the contractual results aimed for
- to commit oneself to respect the quality level defined in the specifications and to help a SME or a SMI each time there is a need for support
- to refer the SME or the SMI to other technological partners likely to take care of it
- to commit oneself to keep strictly secret the subject and the results of the work carried out

This quality-label enables to reinforce trust and partnership with SMEs.

AGIR is part of the five TRC in Aquitaine (AGIR in Bordeaux, AGROTEC in Agen, ILS in Bayonne, ITERG in Pessac and IFTS in Agen) and of the 38 ones which exist in France.

## **1.2 AGIR : a TRC with varied activities**

### **1.2.1 The missions :**

#### **1.2.1.1 Public services missions :**

Those missions are funded by the authorities: by the State (through the Ministry of Research), by the region (through the department of technological transfer) and by the administrative department (through the department of territorial development). Public services missions include 3 activities:

##### **○ To visit companies**

Small-sized firms are regularly visited to detect their needs for technological support. It is also the opportunity for AGIR to carry out diagnosis and preliminary technological audits.

- **“Same day advice”**

AGIR can give advice about the techniques to use or about specific technical points concerning which the firm does not have the answer in-company ; it can go from the mere answer on the phone to a written answer (by email, fax or mail) or even to a preliminary test on the technical workshop.

- **Collective actions**

This is about information and technological dissemination in colloquiums and seminars on topics chosen within the framework of detections of needs.

### **1.2.1.2 Private missions**

- **Implementation and development of new industrial technologies in the food processing industry**

This mission can be done thanks to the support of university laboratories. The platform AGIR manages long-term Research and Development projects in cooperation with the University of Bordeaux, with other technical centers and with industrial partners. These projects aim at making easier the integration of those new technologies within SMEs. New techniques of non-thermal decontamination are the main fields of activities concerned. Thanks to this activity, AGIR is well-known at the national and international levels.

- **Support to the initial and professional training in the food processing industry**

- **Initial training**

The facilities of the TCR AGIR are put at the disposal of students who are co-supervised by their teacher and by a member of the managerial staff of AGIR. They can use the two laboratories (physicochemical and microbiological), the technical workshop, the culinary preparation room and the meeting room fitted out with audiovisual equipments.

- **Professional training**

It concerns industrials and teachers. It is carried out by putting the premises and/or the unit process equipment of the platform and by setting training courses.

- **Support through provisions of tailor-made technological services under the shape of industrial agreements**

AGIR gives its technical support to industrials whether by putting its facilities to their disposal to carry out tests and analysis by themselves, or by making it with them in our premises or in their plant. They can also ask the staff of AGIR to carry out audits or to optimise their manufacturing processes.

The two foresaid activities are mainly convenience services (75% within the region and 50% within the administrative department).

### **1.2.2 The main fields of activity**

- Investigation of new cooking, accelerated defrosting and of non-thermal preservation processes
- Use of high pressure in the food processing industry (jet cutting, preservation,...)
- Development of by-products and co-products of the food processing industry
- Transfer of technology, especially regarding water jet cutting (high pressure) and non-thermal preservation by high pressure or pulsed electric fields.

## **1.3 The means of AGIR**

### **1.3.1 Financial means**

At the moment, the AGIR association is self-financing up to 62%. The premises and equipment are the property of the university but AGIR has the usufruct of it. The main resources are:

- ❖ The services provided to the customers
- ❖ The subsidies for public services missions

In the year 2003, the resources came to 500,000 € of which 160,000 € from the public services missions.

### **1.3.2 Infrastructure facilities**

The platform is fitted out with the following equipment:

- ❖ A pilot workshop of 575 m<sup>2</sup> including more particularly :
  - 2 high pressure pilots for water jet cutting or preservation
  - a pulsed electric fields pilot equipped with a continuous flow
  - a high frequency pilot
- ❖ A preparation and experimental cooking room
- ❖ A testing room with 10 booths
- ❖ 2 laboratories (physicochemical and microbiological)

These facilities enable to carry out investigations for:

- ❖ Unit process operations such as: cooking, drying, preservation, separative techniques through filtration, food biotechnologies, mix, fermentation and packaging.
- ❖ High techs such as: micro-waves, high frequency or high pressure, and non-thermal processing preservation.

### **1.3.3 Human means**

AGIR is currently composed of 7 permanent wage-workers:

- Philippe CANIAUX : Manager
- Jérôme PAPILLON : Project manager
- Sylvie OLIVIER : Research engineer
- Laëtitia LEVY : Research engineer
- Raymond CATALA : Maintenance technician

- Laure ESPALIER : Accountant Secretary
- Emmanuel CORFIAS : platform and Laboratory Assistant

On average, on one year, 7 to 9 people make up the waged team of AGIR and work on a full time basis (including trainees). To this waged team may be added volunteers (association) who supervise the development strategy of the platform and the respect of the financial stability.

## 1.4 AGIR : many partners

### 1.4.1 The founder members



### 1.4.2 The partners

- ♣ Research laboratories: ISTAB (Institute of Sciences and Techniques on Foods of Bordeaux), the ENSCPB (Grande Ecole of Physics and Chemistry of Bordeaux), ENITA (Grande Ecole of Agricultural Work Engineering of Bordeaux), ITERG, CETIOM, INRA (National Institute of Agronomic Research).
- ♣ Technological partners: EDF, NOVELECT, IUT, AGROTEC,...
- ♣ Network partners: network of ACTIA centers (Association of Technical Coordination for the Food Processing Industry), ACTION-RDTA (Technological Dissemination Network of Aquitaine).

### 1.4.3 Industries

They call for AGIR for their competence in the food processing sector and/or for their high-tech equipment.

A few examples of achievements:

**Walnuts decontamination by micro waving:** Pilot plan experimentations in batch or continuous mode with control of treatment effectiveness on microbial reduction (challenge tests and natural flora) and sensory qualities. Optimal treatment parameters and industrial equipment properties have been characterised preparing the technological transfer in the film.

**Development of goat's milk cheese co-products:** Co – product characterization (nature, biochemical composition, quantity,), scientific and technological research on potential way of development, pilot plant experimentation, formulation of a new processed goat's milk cheeses recipe.

**Drink preservation by pulsed electric fields:** Use of new food preservation processing to eliminate micro organisms in fruit juices without any heat effect. Pilot plant

experimentations, process parameters optimization, bacteriological and chemical analysis, sensorial and nutritional evaluation, shelf-life characterization.

**Optimization of pastry cutting:** Use of water jet cutting technology to improve the pastry portion quality (excellent cut quality on fresh or frozen cakes without any crush effect, microbial contamination, limitation,...) and increase the workshop yield and flexibility. Pilot plant experimentation, and process optimization, on line validation in the pastry workshop.

