

## Altex, AINIA'S CO<sub>2</sub> industrial plant

### AINIA

AINIA is a technology centre established in 1987 as a non-profit organization. With more than 25 years of experience in research, development and innovation, AINIA works to motivate the competitiveness of companies through innovation and is one of the European Technology Centres with the largest corporate social system **with more than 700 associated companies and 1,300 clients** mainly from the food sector, but also from environment and energy, packaging, chemical products, cosmetics, pharmaceuticals and biomedicine sectors. Its mission is essentially to "add value to companies by leading innovation and technological development in a responsible and committed way".

AINIA develops its activity around the world, and for this reason it relies on its own capabilities and an extensive network of contacts and alliances with relevant public and private entities. AINIA belongs to the Spanish Federation of Technology Centres (FEDIT), the Network of Technology Institutes of the Valencian Community (REDIT), the European Food Institutes (EFI) as well as several entities and associations, and it has entered into agreements and covenants with national and international organizations.

AINIA's **scope** of work includes Food & Health, Food Quality and Safety, Design and Industrial Production, Sustainability and Consumer. The centre provides different **services** such as:

- Research, development and innovation projects
- Analytical services
- Specialized training
- Food legislation
- Consumer studies
- Industrial services

To provide these services, AINIA counts with a multi-disciplinary team of 208 professionals and with 13.000 m<sup>2</sup> of facilities, 10 training classrooms, 8 laboratories and 12 pilot plants.

### Supercritical Fluids- Altex

AINIA and more specifically its department of **Supercritical Fluids-Altex** has a wide experience on supercritical processes of **nearly twenty five years**, mainly dealing with different **extraction applications but also with others** such as impregnation; deodorization; upgrading of by-products; disinfection and disinsection, microorganism processing; particle generation and material treatment; reaction (enzymatic, supercritical water co-oxidation).

AINIA is able to collaborate in designing, developing and carrying out processes **from pilot up to full-scale**, covering from **feasibility** studies as first step for the subsequent development testing up to **scale up** and definition of processes for **industrial** purposes.

AINIA centre has wide own facilities to perform experimental studies with CO<sub>2</sub> as supercritical fluid. There is a **supercritical fluid pilot plant** which integrates **several equipments** for SCF processes: FSC500 (0,5 L extractor); PFS20 (20 L divided into 4 extractors); SFF58\_60 (column for counter-current liquid fractionation that includes a 5.5 m high column); XLD (40 L divided into 2 extractors), as well as other elements for high-pressure processes: disinfection special systems, ultrasound elements for extraction enhancement. PFS20 and XLD equipments has been **designed and build up by AINIA**, as well as the industrial supercritical fluid extraction equipment also available, **Altex**.

**Altex** is **AINIA'S** high pressure **CO<sub>2</sub> industrial plant**. It is a versatile and multi-product facility, specialized in starting **toll manufacturing** productions, with the objective of providing **access to advanced extractions, purifications and specific materials treatments to food, pharmaceutical and cosmetic companies**. This 4,000 L capacity plant works with CO<sub>2</sub> in subcritical and supercritical conditions (from subcritical up to 350 bar) and has a manufacturing system with **certifications for GMP** (Good Manufacturing Practices) and for **ECO products**.