ctaex

centro tecnológico
agroalimentario

Technological Center
registered and certified
under No 80 issued by the
Inter ministerial Committee for
Science and Technology (CICYT)

With the companies
in the way
to competitiveness

Accreditations and Certifications

>Technological Center registered and certified under No 80 issued by the Inter ministerial Committee for Science and Technology (CICYT).
>Research Results Transfer Office (R.R.T.O.) Register: 189 issued by the Inter ministerial Committee for Science and Technology (CICYT).
>Recognized association of Public Utility – December 21, 2011.
>Business Excellence Award 2011 in Extremadura in the category of business associations, given by the Junta de Extremadura (Regional Government of Extremadura).
>Information Desk on R&D+i related Activities.
>Official testing laboratory certified by the Ministry of Agriculture and the Environment of the Regional Government of Extremadura - Register: 06-014.
>Certified Seed Selector Centre No E/10/06/2574.
>R&D+i Conformity Certificate of Research Personnel.
>Quality System in compliance with the UNE EN-ISO 9001:2008 regulation.
>R&D+i Management System in compliance with the UNE 166002:2006 regulation.
>Competitive Intelligence and Technological Surveillance System, in compliance with the UNE 166006:2011 regulation.

CTAEX is a Technological Center which specialises in ***Agricultural and Food Investigation***. Its aim is to improve the competitiveness of the companies operating in this field through investigation, innovation and results transfer.
Founded as an association in July 2000, at the initiative of companies and business associations operating in the agrifood field, nowadays CTAEX has a vast client portfolio, both domestically and abroad, with whom it develops and implements innovation and research projects aiming at improving their products, procedures and services.

Our added value is our commitment to constantly recycle our skills and knowledge so that we can ensure our clients a professional, comprehensive and updated service at all times.

In 2004 CTAEX was granted the certification as Technological Center no 80 by the CICYT (Inter ministerial Committee for Science and Technology).

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Our Mission

To engage in the achievement of competitive excellence in the agrifood field and its environment through R&D+i, while ensuring optimum food safety and quality.

Our Vision

To be a Technological Center of recognized excellence and national repute in the agrifood field, built on high quality standards and strong innovative character, capable of carrying out flexible and joint projects together with other private and public agents, operating in the Science-Technology-Company system.

Our Values

INDEPENDENCE: Independent management based on technical criteria, free from any external influences or pressures.

PROFESSIONALISM: Multi-disciplinary staff working in intertwined areas to ensure a global response.

SERVICE: Our aim is to ensure the satisfaction of the company on which we focus all our activities and projects.

SECTOR-ORIENTED: Everything we do is directed towards the agrifood business field.

COMMITMENTS & FOLLOW-UP: We ensure a close follow-up and give expert advice to the company throughout the various innovation stages.

QUALITY: determination, fighting spirit, permanent management improvement, prestige of the activities carried out by the Center.

INFORMATION & TRANSFER: We work to bring CTAEX-generated knowledge and technology closer to agrifood companies.

INNOVATION: search for solutions meeting both present and future demands.

SOCIAL RESPONSIBILITY: Our ultimate goal is to ensure all those we work with a bigger satisfaction.

ENVIRONMENTAL AWARENESS: Improving the sustainability in our surroundings.

BUSINESS & INSTITUTIONAL COOPERATION:

CONSOLIDATION and professionalization of Human Resources.

AGRICULTURAL RESEARCH. Paving the way for a competitive and sustainable agriculture

The incorporation of new countries into the EU, the search for common policies (agrarian policies included), the growing importance of safety and traceability throughout the food chain, and the need to render crops more profitable (as a result of the increase in the number of imports) have gradually shaped the agrarian / agricultural field and determined its current status. These changes require immediate action and constant updating through the search of more sustainable and effective production methods and techniques in order to reduce production costs and increase productivity.

Nowadays, both Public Administration entities and companies operating in this field demand state-of-the-art technologies and innovative methods allowing them to meet these needs in a professional and profitable way – the former in order to be able to plan their course of action and define their programs accordingly, and the latter to increase their activity.

FOOD RESEARCH. Innovation in current and future foods

Nowadays the agrifood industry is asked to meet new demands resulting mainly from the significant changes that have gradually affected the once traditional family structure and eating habits of the population in general, but also from this recent massive access to information. These factors, combined with the increasing search for leisure activities, the frenzied pace of today's life, the growing awareness of the importance of looking after one's health, safety and better quality of life urge the agrifood industry to come up with more effective solutions.

Traceability, safety, aesthetics, variety and standardization: they all contribute to the general improvement and development of present and future products. Hence they all require specialized and updated skills and knowledge.

Food Technology

FOOD OF TODAY, FOOD OF TOMORROW, CURRENT AND NOVEL PROCESSES, PACKAGING

R&D+i

The Food Technology Department is responsible for three out of the five strategic research lines implemented by CTAEX. These lines meet the new demands of today's society, whether these are food safety requirements imposed by consumers, or legal requirements set up by the different Regional Administrations. Furthermore, they also respond to one of the most important challenges facing each and every company: the need to put new products on the market.

Preservation techniques for minimally processed foods

The main goal of this research line is to develop innovative non-aggressive processes to minimize the impact of current preservation methods and to implement more effective energy saving techniques so that companies can improve their production whilst reducing their thermo-dependence. Moreover, it aims at introducing natural preservatives in food preservation processes and developing non-aggressive techniques to extend the shelf-life of food products – all of these in compliance with the safety regulations in place and the variety that all consumers expect to have on their tables in the most natural way possible.

Development of new food products

This research line aims at diversifying food products, especially cooked and pre-cooked meals, by keeping up with the latest advances and trends in international markets, through the implementation of new cooking methods and food technologies.

Healthy Food Products. Enhancing the characteristics of traditional foods

The purpose of this research line is to enhance the healthy characteristics of traditional food products. This can be achieved either by replacing their negative contents by healthier ones, or by enhancing their nutritional value. This line meets the demands of today's society, by offering consumers the functional foods and the nutritionally balanced boost they need to keep up with their daily activities.

SERVICES

Vegetables, precooked meals, frozen and refrigerated products, ready meals, products packed in modified atmosphere, sauces and soups, meat products, fish-based products, dairy products, functional foods, olive oil.

- Development of new products: semi-processed, prepared products (meat, fish, vegetables), dairy products, products obtained from by-products, functional and low-fat foods.
- Processing technologies: fourth and fifth ranges, concentration, baking, aseptic, multiple barriers, pasteurization, sterilization, UHT, etc.
- Sensory analysis: discriminating and descriptive analysis of products, preference and sensory acceptance testing.
- Other services: shelf-life analysis, evaluation of ingredients, improvement of formulae, reconstitution studies, preparation of product samples for market surveying purposes.

EQUIPMENT

Pilot Plant:

- Reception and processing room for vegetable raw material.
- Vegetable processing line (whitening, cooler, freezing tunnel).
- Industrial kitchen (boilers, steam cabin, vacuum boiler).
- Aseptic packaging and processing line for vegetables and fruit juice and concentrates.
- Processing chamber for meat products (cutter, injector, meat grinder, malaxator).
- Precooked foods room (forming unit, stuffing machine, extrusion equipment, flouring machines, tempura/paste applicator, coating equipment, fryer, ovens).
- Thermo-treatments (tubular pasteurization equipment, scraped surface, plates, UHT, rotary autoclave, ovens).
- Modified atmosphere packaging system (thermo-sealants, gas mixer, gas analyzing equipment).
- Dairy products and cheese line: plates' pasteurization equipment, rennet container, press, reverse osmosis and nanofiltration, microfiltration and ultrafiltration system.
- Olive oils line: experimental mil for the production of olive oil, Abencor®.
- Other equipment: homogenizers, colloid mill, hammer-mill, etc.
- Dosimetry room.
- Maturation chambers for hams, sausages, cheese, etc.
- Storage chambers (refrigeration, freezing).
- Controlled temperature and humidity chambers for conservation analysis and study purposes.

Control Laboratory for Products and Processes:

Texture analyzers, gas analyzing equipment, ortable spectrophotometer, aw measuring probe, refractometer, scales, pH meter.

Experimental kitchen:

Convection mixed ovens – steam, microwave, traditional kitchen, griddles, frying pans, kneading equipment, storage chamber, pantry, dosimetry.

Sensory analysis laboratory.

CLIENTS

The services provided by our FOOD TECHNOLOGY department have always been requested by numerous agrifood companies operating across all fields, although, mainly as a result of our geographical location, we have specialized in those sectors more significantly present in our area: meat, cold meats and sausages, dairy products, wine, olives and olive oil, rice, processed tomato, perfumes and essences and also pharmaceutical industries, etc.

The demands presented by these companies range from the development of a new product to release onto the market or for the company itself, to the implementation of more efficient and cost-effective production processes, the production of enriched foods, compliance with the packaging regulations in place, use of new materials, gases, etc.

The profile of the companies, associations and institutions requesting our services is certainly most varied, but above all their goals are the same: they all want to grow and they all have a clear market-oriented policy.

Food Safety and Science

ANALYSIS, FOOD SAFETY, TRACEABILITY

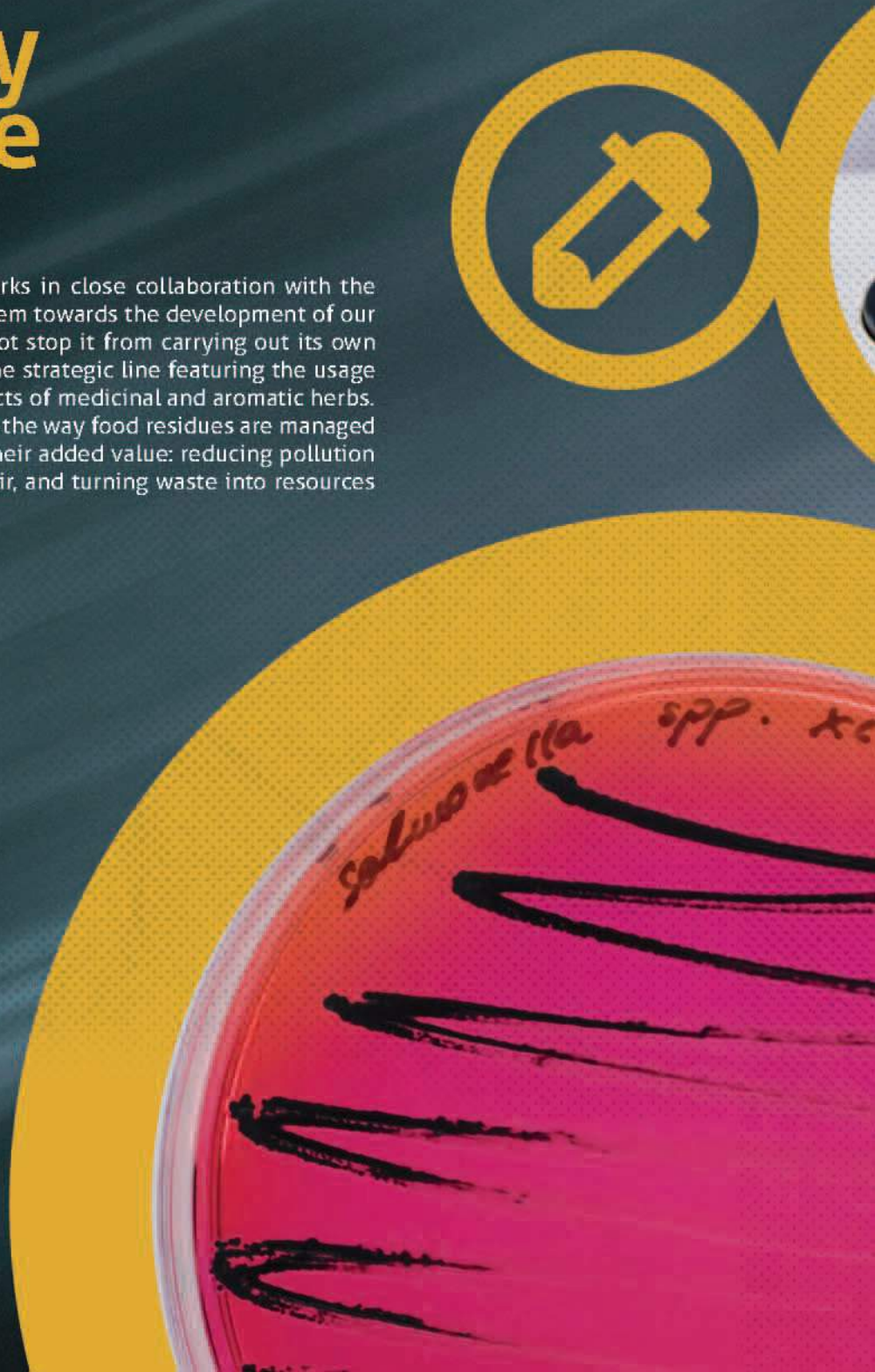
R&D+i

The Food Safety and Science department works in close collaboration with the other departments, helping and supporting them towards the development of our various research lines – this, however, does not stop it from carrying out its own research projects, namely those focused on the strategic line featuring the usage and valuation of waste, by-products and extracts of medicinal and aromatic herbs. The purpose of this research line is to improve the way food residues are managed so that a double benefit may be drawn from their added value: reducing pollution and contamination levels in soils, water and air, and turning waste into resources (energetic, preservatives, biofuel, inputs, etc.).

SERVICES

Waters, foliar feeding, agricultural soils, fertilizers, fodder, foods and their related raw materials, aromatic and medicinal herbs, oils, fats.

- Analysis of physical and chemical properties of both products and materials, including the assessment of the impact resulting from the use of technological processes and the changes produced by storage.
- Nutritional value of finished foods.
- General microbiology.
- Microorganism fast detection techniques: flow cytometry.
- Pathogenic microorganism detection by PCR (Polymerase Chain Reaction).
- Consultancy services when installing new equipment and putting into place new methods to perform analysis.
- Physical-chemical analysis.
- Microbiological analysis.
- Vegetal pathology and in-vitro cultivation.
- Analysis of biological struggle in crops.



EQUIPMENT

Microbiology Laboratory:

- Flow cytometry.
- PCR.
- Microscopy.
- General microbiology techniques.
- Incubators.
- Laminar flow cabins.
- Autoclaves.

Physical-Chemical Laboratory:

- Gas chromatography with specific detectors: CG-FID / CG-MS-MS.
- High resolution liquid chromatography: HPLC-DAD-IR.
- Ion chromatography: CI.
- Spectrophotometry: UV- VIS
- Inductively coupled plasma mass spectrometry: ICP.
- Colorimeter.
- Refractometers.
- Solid/liquid extractor for active ingredients of plants.
- Essential oil extractor by steam distillation.
- Rancimat method: fat stability meter.
- Viscometers.

CLIENTS

The clients who usually require the services provided by this specific department are mainly agrifood companies, other laboratories, Universities and/or Professional Training Centers.

Some of our most demanded services are: quality control tests to ensure full compliance with the law in place, detection of possible contaminations in food products (harmful bacteriae, heavy metals, pesticide residues, etc), fraud detection in products and training courses on lab techniques for experts and students.

Agriculture

RANGES, CROPS, TECHNIQUES, PLANT FERTILIZATION

R&D+i

The agriculture department is also responsible for another one of CTAEX's strategic research lines – optimization of agricultural systems – which focuses on the practice of a sustainable agriculture in order to ensure environment-friendly food production methods and more efficient and cost-effective agricultural techniques. Apart from these two main goals, it also works to adapt new crops with a view to their further industrial transformation.

SERVICES

- Agronomical study of the different crops (study of varieties).
- Research of new crop techniques: cultivation and irrigation techniques.
- Fertilization tests.
- Plant multiplication.
- Alternative agricultural production: integrated and biological production.
- Implementation of new crops: financial viability and adaptation.
- Crop scheduling: sowing and harvesting.
- Control tests on weeds.
- Influence/effectiveness tests: assessing the impact of different products on the growth and development of crops.

EQUIPAMENT

Farm

23 ha farm equipped with:

- Total coverage irrigation equipment.
- 1,000 m3 irrigation pond
- Irrigation water wells.
- Irrigation pumps room.
- Irrigation equipment.
- Computerized weather station.

Facilities

- General agriculture warehouse.
- Machinery barn.
- Agriculture products handling room.
- Seed chamber equipped with humidity and temperature control system.
- Seed preparation antechamber.
- Agronomy offices.

Greenhouses

- Glass greenhouses equipped with temperature and humidity automated control system.
- Ground greenhouse.
- Plastic greenhouse for plant multiplication.
- Reverse osmosis equipment for the supply of fertilizers.
- Machines and tools for agriculture.
- Technological equipment for controlling humidity and salinity of the soil.

CLIENTS

In broad terms, the clients requesting our agricultural services are mainly agriculture input companies, forestry services and agrifood cooperatives.

The most demanded services are fertilization tests, agronomic essays of crop varieties and feasibility studies on crop adaptation. Amongst our private clients are sector associations or companies operating in the area of fertilizers and seeds, as well as foreign companies working to adapt their products to the Spanish market.

Engineering

CONSULTANCY, TECHNOLOGY AND ENVIRONMENT

R&D+i

This department plays a key role as it provides assistance in testing our R&D projects, especially by ensuring a proper coordination of those related to energetic valuation from agrifood by-products. Besides, it also develops new tools and utensils, adapts existing machinery, renders processes fully automatic and designs production lines.

Moreover, it is also responsible for the general maintenance of the Center, the design, valuation, purchase and installation of new equipments, either they are food related machinery, machines for agriculture, communications and laboratory equipment or new works and renovations.

SERVICES

- Technical advice.
- Technological and scientific consulting.
- Process engineering.
- Design of lines and processes.
- Guidance on ensuring optimum stages.
- Technical feasibility.
- Environment.

EQUIPMENT

- Mechanical garage.
- Electrical facilities.
- Boiler room.
- Processing station.
- Water treatment: reverse osmosis plant.
- Sewage treatment plant.

CLIENTS

What our clients have in mind when they request our engineering services is basically that we can help them set the foundations for the development of new products and competitive solutions, especially in the areas of quality control in the tomato industry, usage of by-products, development of new cost-effective production processes and design of more efficient work lines.

Research Result Transfer Office (RRTO)

KNOWLEDGE, TRAINING, DISCLOSURE, INFORMATION, MARKETING, CONTACTS, COMPETITIVENESS

Our Research Results Transfer Office plays a major role within our R&D activity as a whole since this unit is in charge of fostering, promoting and letting society know about the research results obtained by the Center. Furthermore, it is also responsible for all internal and external CTAEX communication, for our staff's training and also that of companies operating in the field. In order to do this CTAEX relies on two core pillars:

1. ***TECHNOLOGICAL SUPERINTENDENCE:*** this is a core tool when it comes to R&D+i as it allows ideas to generate and flow so that they can be later used in projects which will eventually lead to a new product, service or process for the company.
2. ***TECHNOLOGICAL TRANSFER:*** once the ideas have been generated and their resulting projects are in motion, it is important to let society know about the results obtained. This can be done either through the implementation of training programs, or by rendering the whole R&D+i agrifood environment and market more dynamic. In order to do so cooperation networks, both sector-wise and inter-sector-wise, must be promoted, as well as all those activities designed to stimulate cooperation with Universities, other research centers and companies.

SERVICES

- Continuous training for agrifood industry workers: food handlers; tomato quality controllers, etc.
- Organization of customized training courses to fit the needs of different companies and agrifood- related entities.
- Agreements with private and state Universities, as well as other training centers with a view to implementing teaching practice programs.
- Organization of technology transfer workshops.
- Technical consultancy services on R&D+i competitive tendering.
- Surveys on technological demands.
- Reports on technological superintendence/monitoring.
- Retrospective analysis.
- Alertas informativas.
- Info alerts.
- Technological superintendence/monitoring products: newsletters, periodic publications, etc.

- Competitive, commercial, technological and environmental monitoring.
- Presentation of innovations.
- Organization of sectorial debates.
- Technological observatories.
- Sectorial Webs with updated info.
- Technological updating: legislative and sectorial.
- Research results transfer.
- Presentation of products.
- Cooking practical demonstrations.
- Tasting sessions.
- Organized samplings.
- Organization of press conferences for businesses operating in the field.

CLIENTS

The main clients of this department are agrifood companies and public administration entities interested in providing refresher courses to their employees or in implementing a new department for which specific and professional training is required.

As far as results transfer is concerned, the number of companies and public institutions that now regard information transfer as essential to the development of new projects and research programs, new products and trends, legislation, events, etc. is increasing rapidly as evidenced by the growing demands that we are asked to meet every day.

Economic & Financial Services.

MANAGEMENT, EFFICIENCY, BUSINESS CONSULTANCY, FEASIBILITY

R&D+i

The economic department of our Center plays a major role in the management of R&D+i projects as it not only carries out all the necessary feasibility studies, but also ensures the follow-up of each Project, not to mention sustaining those entering public competitive tenders, which allow CTAEX to continue operating and developing its research lines.

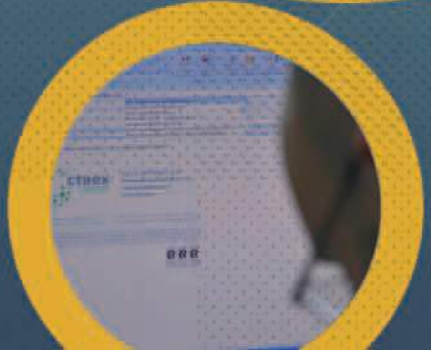
SERVICES

- Economic and financial advice.
- Business consulting.
- Accountancy consulting.
- Writing and monitoring economic reports for projects.
- Costings.
- Feasibility studies.
- Social and economic research.
- Sectorial research.
- Management, follow-up and justification of State fundings granted for the development of R&D+i Projects.
- Human resources.

CLIENTS

The beneficiaries of these services are those companies and institutions applying for State grants to develop R&D+i Projects, since the subsidies and tax incentives granted by Regional and National Administrations as well as by several European bodies are very significant. However, in order to be eligible for these incentives one needs the services of skilled knowledgeable informed experts, and this is exactly the kind of service our experts in this department provide.

Our technical expertise is also requested by other companies and entrepreneurs looking for business consulting services and, more frequently, sector surveys on new trends, applications in other countries and technical-financial advice to ensure a proper management of innovation projects.



R&D+i projects management office

CONTACTS, CLIENTS, MANAGEMENT OF RESOURCES, TECHNICAL ADVICE, COMPETITIVENESS, EFFICIENCY

R&D+i

When we think about how important an efficient management of the available resources is in this business, we realize that this department in particular plays a key role in the dvelopment of new projects. Add to this its commitment to maintaining a permanent contact with each Client, working as a link between the latter and the Center to provide all the necessary documentation to those projects requiring funding management services for their implementation.

SERVICES

- Management of government R&D+i funding and subsidies.
- European projects.
- National fundings; Ministries, CDTI, etc.
- Regional projects.

CLIENTS

Considering that in order to be eligible for funding, companies need to meet a number of very strict requirements, we have decided to create this department whose experts and knowledgeable technicians provide help and support to those Clients who wish to apply for regional, national or international subsidies and tax incentives for the development of innovation, research and/or technological proj ects.

SECURITY
COMPANY
COMMITMENT
TRACEABILITY
INNOVATION
TECHNOLOGY
RESEARCH
FOOD
PROFITABILITY
EXCELLENCE
CONFIDENTIALITY
DEVELOPMENT
PROFESSIONAL
HEALTH
EXPERIENCE
COMPETITIVENESS
CONSUMER






CTAEX

Ctra. Villafranco a Balboa, Km 1,2.
CP. 06195 Villafranco del Guadiana (Badajoz)
Post Office Box 435. CP 06080, Badajoz (España)
Tel. +34 924 44 80 77 / Fax. +34 924 241 002

ctaex@ctaex.com / www.ctaex.com

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