

ekonek Drying
Innovation

Machinery for advanced manufacturing systems

Industrial Services



Etxetar

Machining solutions for high production of precision metal parts.



Talens

Laser technology solutions.



Gaindu

Assembly, testing & automation systems.



Gurutzpe

Heavy duty multi-task turning solutions.



Macarbox

Cardboard production and conversion solutions.



Izadi

Manufacturing, repair and treatment services for industrial workpieces.

Digital

Circular Economy

Tile Industry

R&D



Aingura

IIoT solutions for operational excellence.



SoC-e

Ethernet communication solutions for critical systems.



Titanium

Industrial Cyber Security.



Ekonek

Solutions for creating dehydrated products.



Ezarri

High quality glass Mosaic products.



Iker-gune

R&D center.

A background image showing a modern office environment. Several people are seated at desks, working on laptops. The office has large windows and a clean, professional look. The text "WORLDWIDE PROJECT DELIVERY" is overlaid on the right side of the image in a large, white, sans-serif font.

WORLDWIDE PROJECT DELIVERY

520 employees.


41% with a degree.


Strong engineering capabilities:

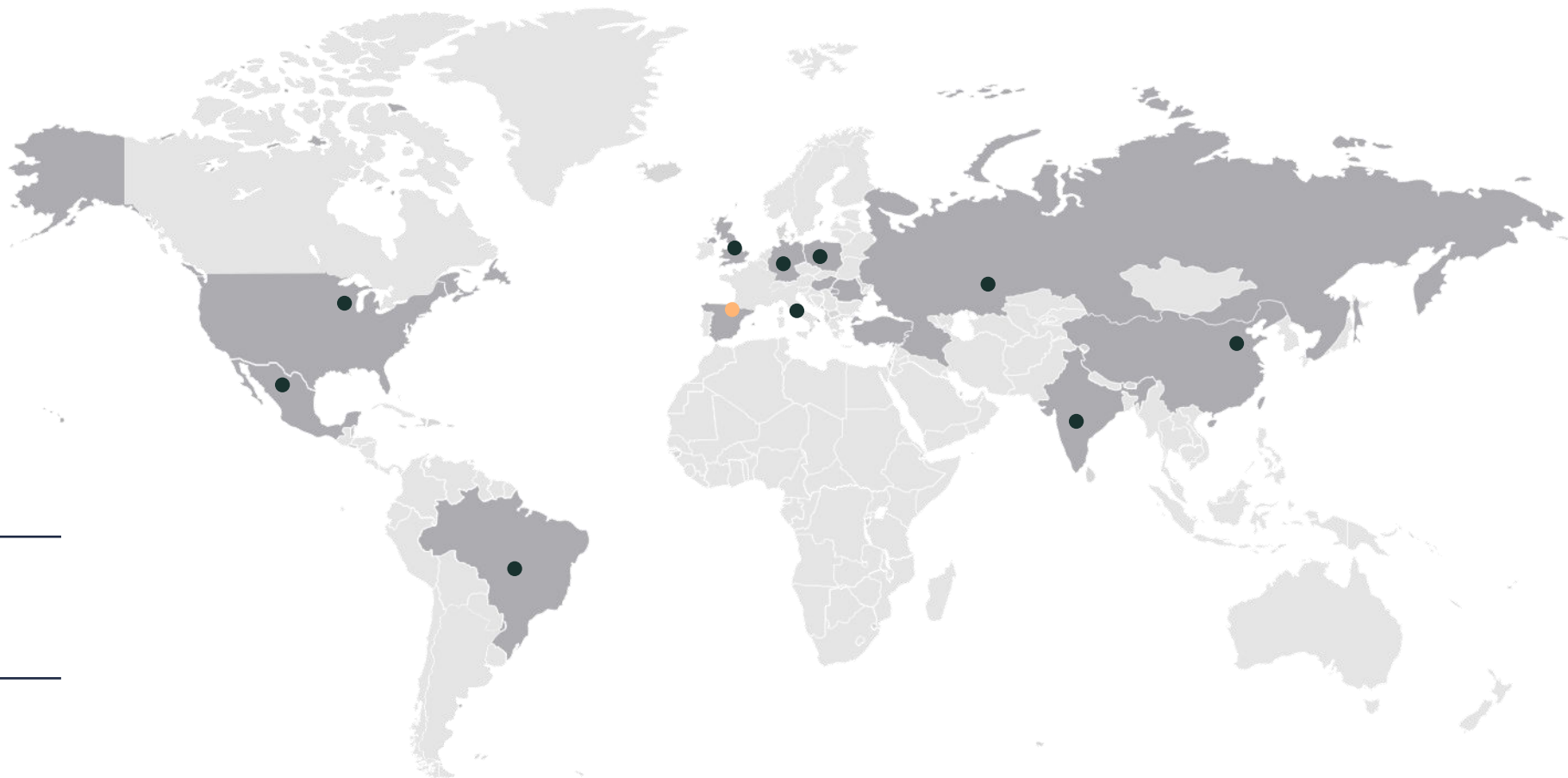
Talent & Commitment.

- Headquarters
- INZU Group Service Center

 **Global**
Support network

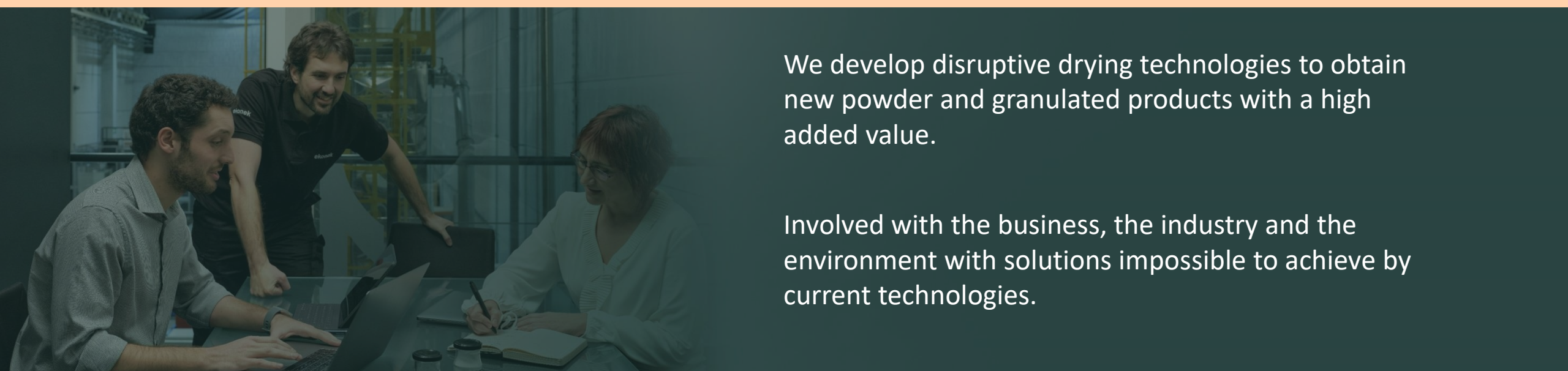
 **Quick and efficient**
Anytime, anywhere.

 **100 On-site**
Technicians



ABOUT US

**Pioneers and ambitious.
Designing to get a real impact
in the activity.**



We develop disruptive drying technologies to obtain new powder and granulated products with a high added value.

Involved with the business, the industry and the environment with solutions impossible to achieve by current technologies.

COMMITTED

We are part of INZU Group, highly customer oriented and consolidated industrial group from one of the most competitive European regions.

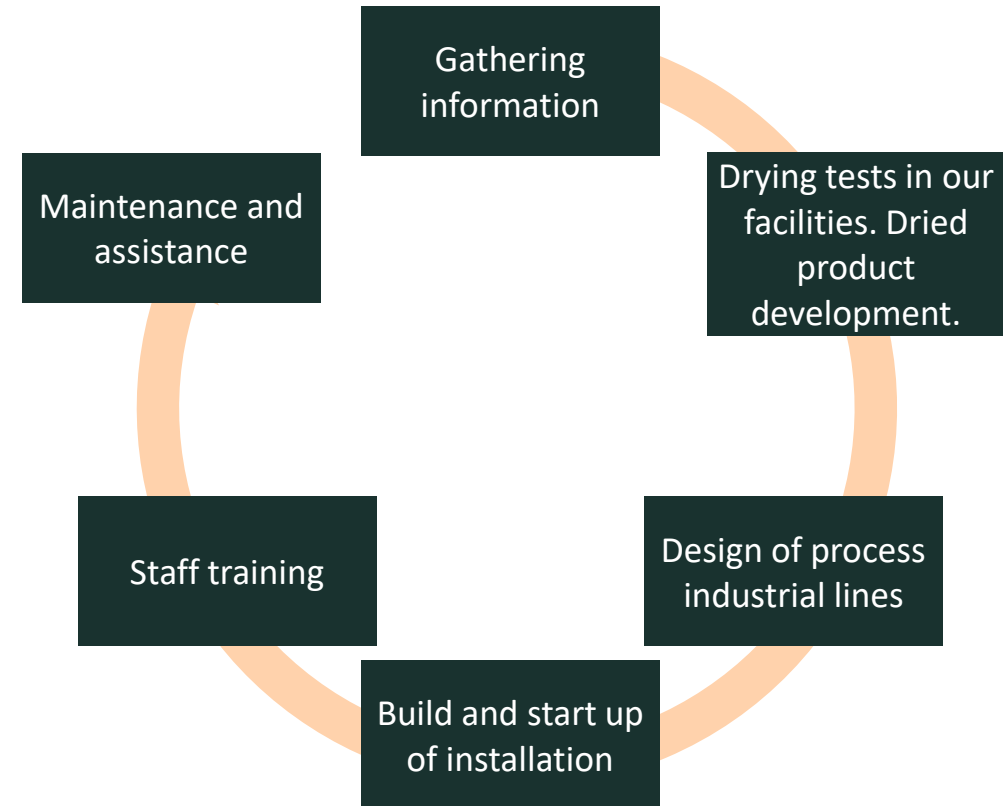
ENGINEERING-LED

We are an engineering company that provides solutions.

PIONEERING

We always go beyond devising solutions that go beyond the standard. We are innovators and we collaborate.

We cover the full
life cycle of
industrial project



Awards



European Business Awards
for the Environment 2018,
Vienna (Austria)

Nordic Baltic Drying
Conference 2017, Hamburg
(Germany)

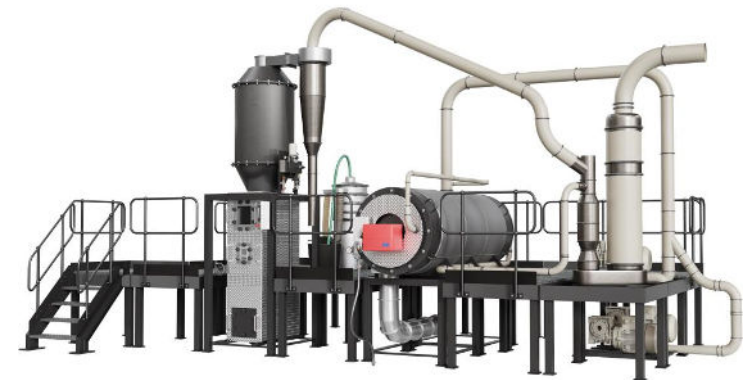
Young innovative
company,
Irun (Spain)

Technologies

PULSE SPRAY DRYING



SPOUTED BED DRYING



Technologies

PULSE SPRAY DRYING

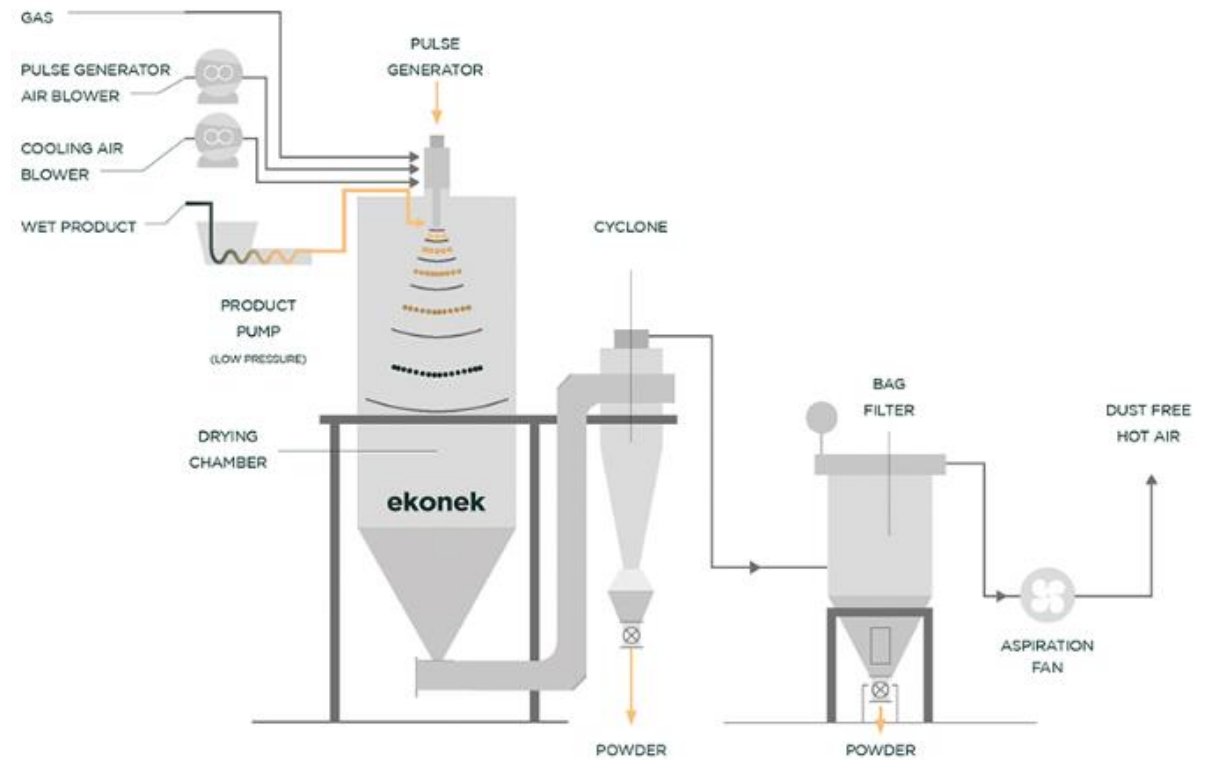
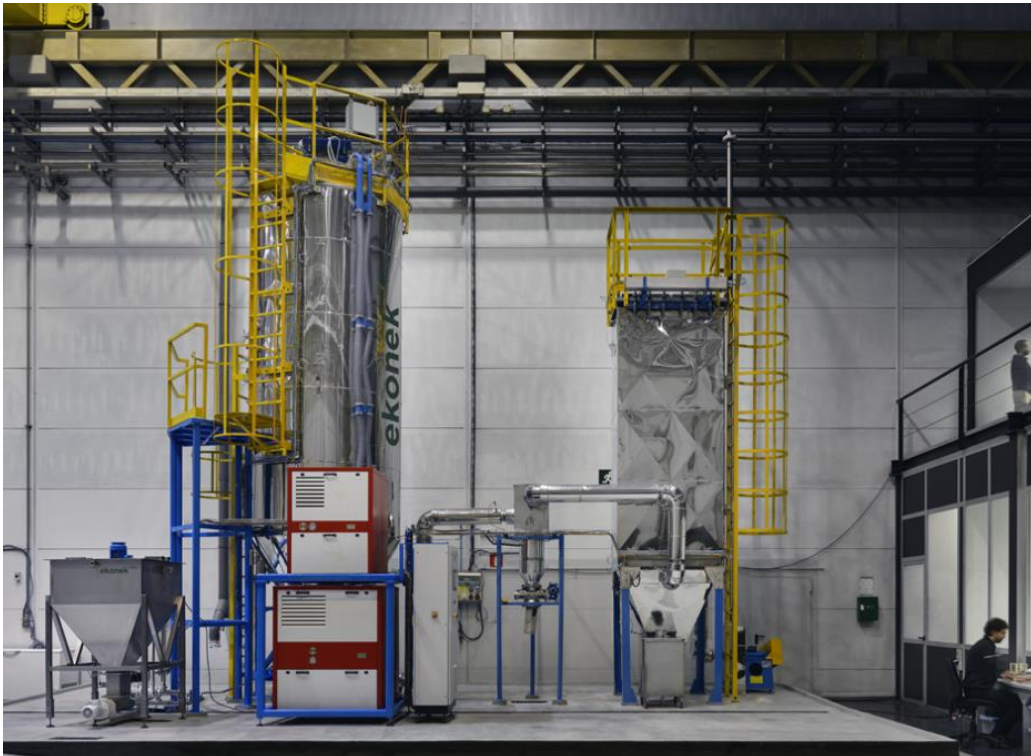


SPOUTED BED DRYING



PULSE SPRAY DRYING

Technology

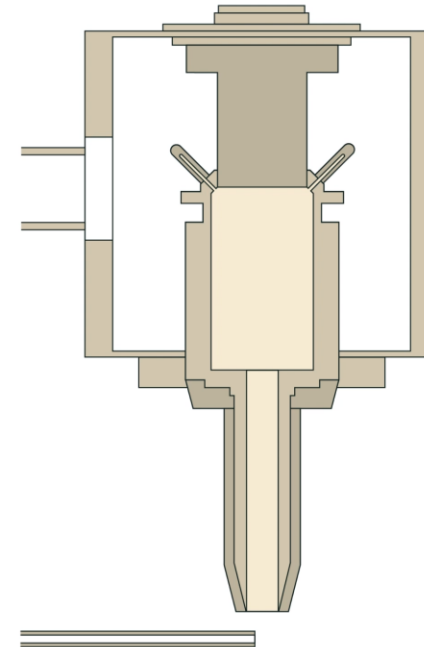


PULSE SPRAY DRYING

Technology

1

Air is pushed inside the pulse generator, around the combustion chamber. When the electric motor opens the rotary valve, air goes inside the combustion chamber.



Click here to view the animation:

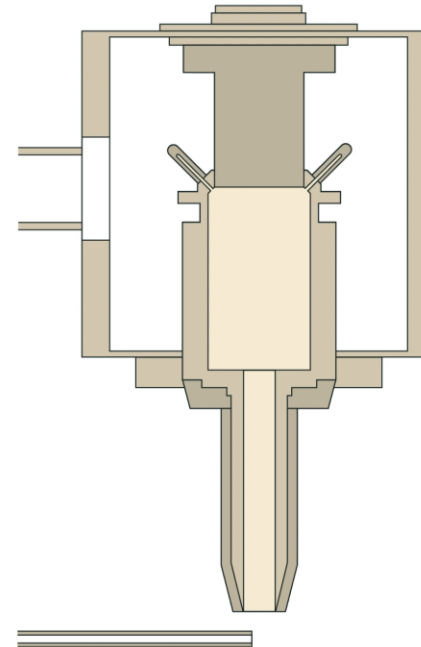
<https://www.ekonek.eu/en/solutions/pulse-spray-drying>

PULSE SPRAY DRYING

Technology

2

When rotary valve closes again, gas comes into the combustion chamber.



Click here to view the animation:

<https://www.ekonek.eu/en/solutions/pulse-spray-drying>

PULSE SPRAY DRYING

Technology

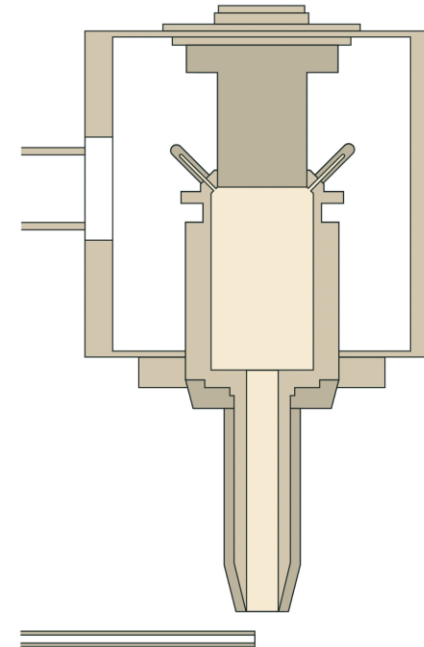
3

Rotary valve opens again, air goes in, and gas is ignited extremely quickly. That generates a pulse, or a sonic wave, that leaves the combustion chamber through the tail pipe, together with the combustion heat, at a very strong acceleration.

Rotary valve closes just after ignition, and the cycle repeats.

Click here to view the animation:

<https://www.ekonek.eu/en/solutions/pulse-spray-drying>

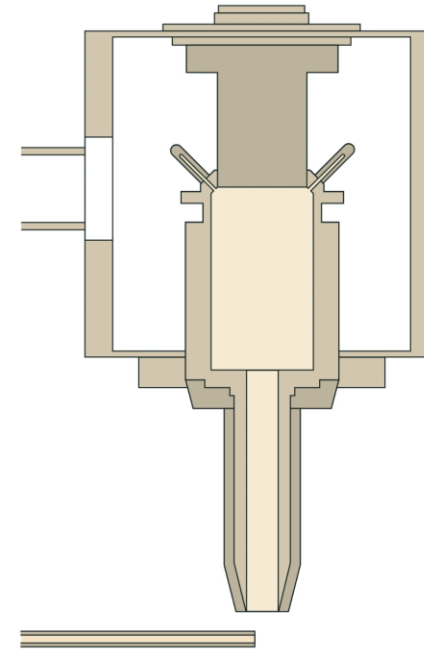


PULSE SPRAY DRYING

Technology

4

The cycle is repeated more than 100 times per second. That means that more than 100 pulses per second are going through the tail pipe.



Click here to view the animation:

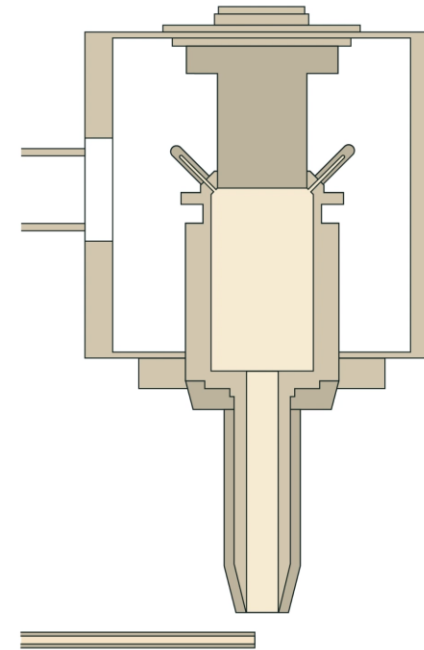
<https://www.ekonek.eu/en/solutions/pulse-spray-drying>

PULSE SPRAY DRYING

Technology

5

A liquid or pasty product is injected in the end of the tail pipe, through a single pipe, at low pressure. The pulses break the liquid down into thousands of droplets. A hot spray of fine droplets is generated, that goes inside the drying chamber.



Click here to view the animation:

<https://www.ekonek.eu/en/solutions/pulse-spray-drying>





PULSE SPRAY DRYING

Benefits



ATOMIZATION OF PRODUCTS THAT CANNOT BE PROCESSED IN CONVENTIONAL DRYERS

It can atomize products with higher viscosity, higher concentration, or products containing fibers/solids up to a few mm.



LOWER RUNNING COSTS

Energy efficiency:
20-30% lower running costs than Spray Dryers.



LOWER MAINTENANCE COSTS

No nozzles or discs that have to be frequently changed.



HIGH FINAL PRODUCT QUALITY

Keeps the nutritional value of the products.

PULSE SPRAY DRYING

Applications



VEGETABLES

Brewer's yeast, Pomaces, Okara, Broccoli, Olive vegetable water, Etc.



MEAT BY PRODUCTS

Meat hydrolysates, Fresh meat, Meat trimmings, MDM, Blood or Viscera.
New ingredients for human food, pharma or pet food.



FISH BY-PRODUCTS

Fish hydrolysates, Fish Trimmings, Fish flavoring as a natural ingredient, Whole fish, Seafood, Etc.



DAIRY

Milk, Whey, Permeates, Cheese, Out to date dairy products, Etc.

PULSE SPRAY DRYING

Applications



PAPER WASTES

Slurries with cellulose, calcic carbonate, mechanical pulp lignin, black liquor, Etc.



CERAMICS AND MINERALS

High dry matter slurries with mineral products, like:
Calcium carbonate, Aluminum hydroxide, Calcium nitrate, Magnesium sulfate, Etc.
Extremely fine products, with a narrow particle distribution.



MICROALGAE

We can atomize high dry matter microalgae pastes, making powders that keep the nutritional value.



OTHERS

We have successfully dried highly concentrated solutions of polyacrylates, detergents, chemical industry, etc.

PULSE SPRAY DRYING

Applications

PILOT PLANT FOR TRIALS AND R&D FOCUSED ON CLIENTS PRODUCTS

- Water evaporation capacity:
70 kW (70 kg/h of water)
- Flexible and polyvalent for any type
of products.



PULSE SPRAY DRYING

Applications

**“TURN KEY” INSTALLATION TO PRODUCE
BREWER’S YEAST. 1.000 kW**

- Product in: About 1.500 kg/h yeast at 30% dry matter.
- Product out: About 500 kg/h yeast at 3% moisture.
- Evaporation : 1.000 kg/h water.



PULSE SPRAY DRYING

Applications



PULSE SPRAY DRYING

Applications

Comparing brewer's yeast powder:

- Left: dried by roller.
- Right: dried by Pulse Spray.



PULSE SPRAY DRYING

Applications

“TURN KEY” INSTALLATION TO PRODUCE HYDROLYZED PROTEIN. 1.000 kW

- Product in: About 1.675 kg/h of hydrolyzed protein concentrate at 40% dry matter.
- Product out: About 670 kg/h of hydrolyzed protein powder at 3% moisture.
- Evaporation : 1.000 kg/h water.



PULSE SPRAY DRYING

Applications

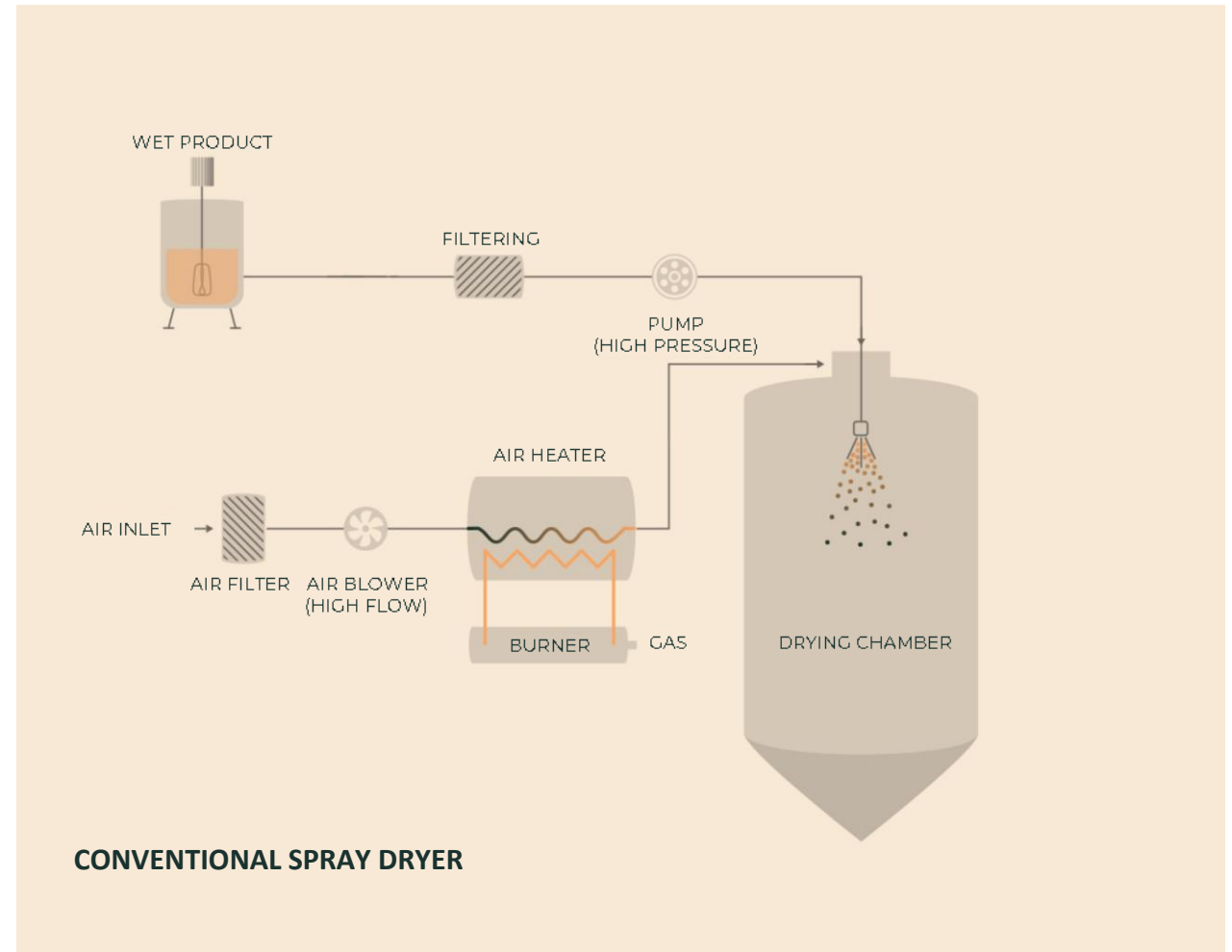


PULSE SPRAY DRYING

Retrofit spray dryer to PSD

IF YOU HAVE A SPRAY DRYER, IT IS POSSIBLE TO ADAPT YOUR INSTALLATION TO THE PSD TECHNOLOGY

- Minimum investment.
- Increasing drying capacity of existing Spray Dryers.
- Savings of 20% to 30% of energy.
- Atomization of products that cannot be atomized by your Spray Dryer installation.
- Reduction of maintenance costs.

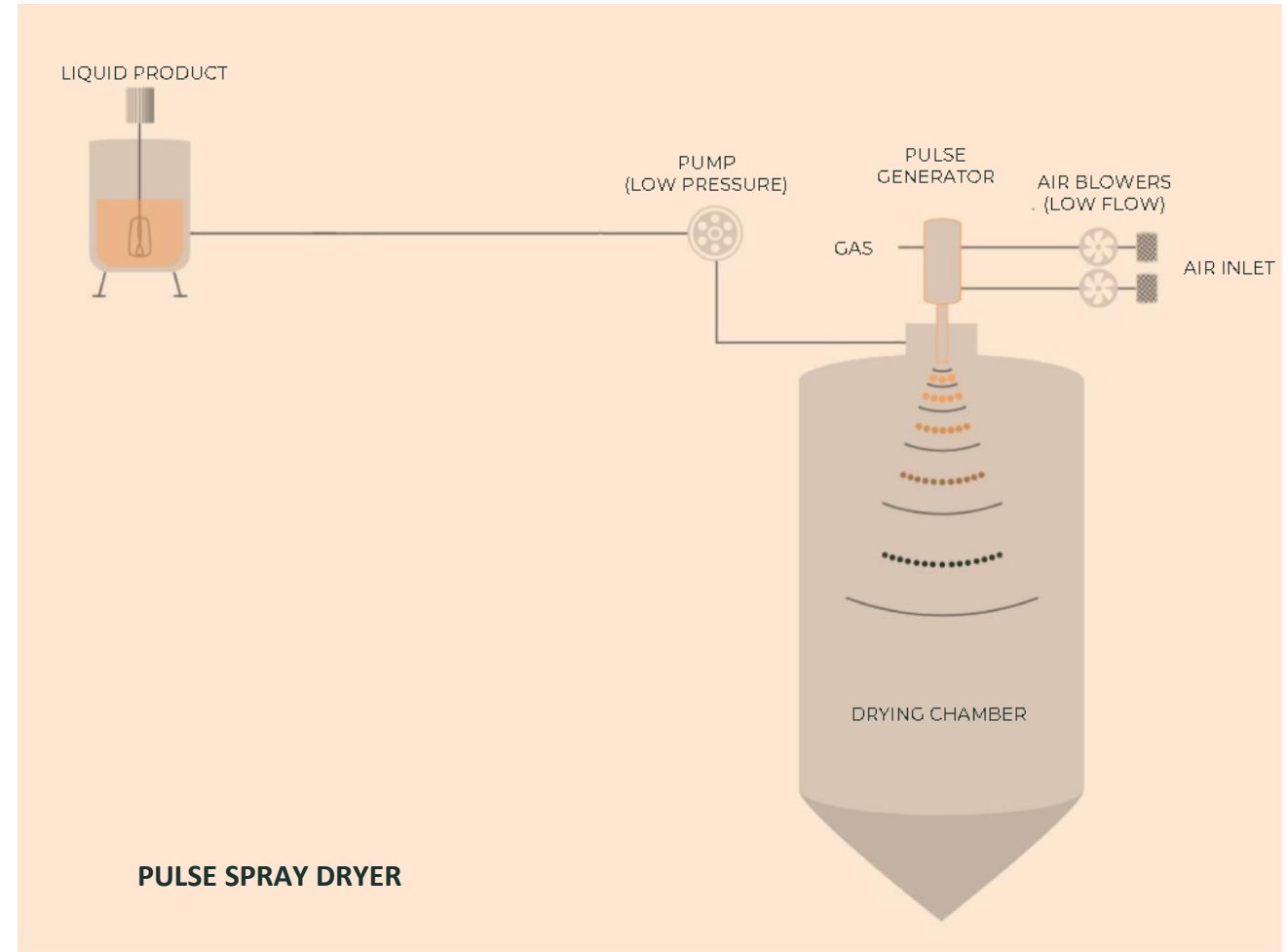


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Service

We offer a complete range of services and technical support, to optimize operations, productivity and durability of the machine.



Max. uptime, productivity and quality.



Min. unplanned stops and total maintenance costs.

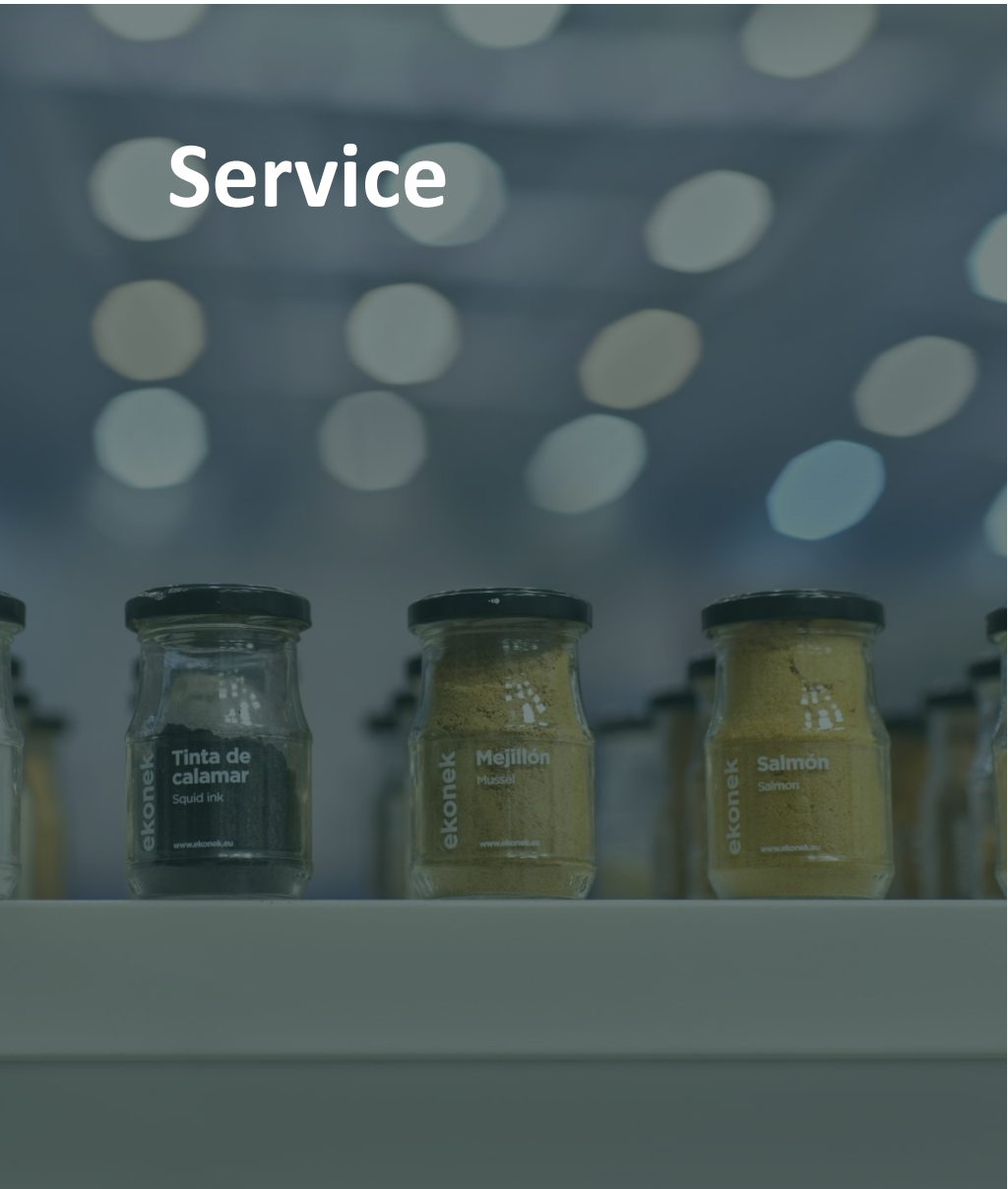


INZU Group is Worldwide established to give service to our Customers.

Service

Development of new dehydrated products

We obtain new food ingredients, feed or fertilizers of high added value, from different fractions of products or by-products.



Service

A man in a black jacket with the 'ekonek' logo on the sleeve is working on a large, complex industrial machine. He is leaning over the machine, which has a glass or transparent section, and appears to be adjusting or inspecting something inside. The machine is part of a larger industrial structure with yellow safety railings visible in the background.

Drying tests and preparation of customized products

We offer to our customers complete product tests in our pilot facilities. Including grinding, mixing or dosing of raw materials and drying by PSD or SB, in order to achieve the best characteristics of the final product.

A photograph of a man with a beard, wearing a dark jacket, pointing at a complex electrical control panel inside a large industrial machine. He is holding a large sheet of paper with technical diagrams. A woman with glasses is partially visible in the foreground, looking at the panel. The background is dark and industrial.

Service

Design and construction of drying equipment

Each drying facility that we build is adapted to different needs, being designed to fulfil all your expectations.

We can supply Turn-Key installations if requested, including product preparation, concentration and homogenization, drying system, conveying the dry product and final bagging.

A photograph of two men in a dimly lit office environment. They are seated at a desk, looking at a large computer monitor. The man in the foreground, who has a beard and is wearing a blue button-down shirt, is pointing at the screen with his right index finger. The man behind him is also looking at the screen. The monitor displays a complex technical diagram or software interface with various colored lines and shapes. The overall atmosphere is professional and focused on technical work.

Service

Industry 4.0.

Ekonek is implementing Industry 4.0 technology in our installations in order to offer the best Up-Time.

Ekonek is collaborating with the company Aingura at Industry 4.0 development. As Ekonek, the company Aingura is part of INZU Group.

Service



Maintenance

With the objective of having your installation operating without unexpected stoppages, we offer a maintenance contract with planned visits to your facilities, etc.

We can remotely control/operate the machine if needed.

Service



Training

- Specific training
- On-site and at Ekonek pilot plant training.
- Continuous training plans.
- Theoretical and practical training.

ekonek

Do you want to know more about Ekonek?

www.ekonek.eu

ekonek Drying
Innovation