

## Navigating Unpredictable Times



The second and third quarters of 2022 suffered from the brunt of the war, with many factories putting off their investment decisions. However, traction from existing customers in both renewables and powder processing backed by good results has helped ACS stay on track.

Perhaps the most interesting ongoing projects are the ones related with **carbon capture** in several processes, ranging from pyrolysis to gasification. The so called BECCS (Bioenergy with carbon capture and storage) is becoming increasingly important for ACS. Several engineering solutions have been developed for our cyclones to withstand the extreme operating conditions involved. These are being applied to new projects for broad solution providers with whom ACS has ongoing relationships.

Recently, ACS secured a first order from [Swift Fuels](#) in the USA for **carbon coke recovery**, guaranteeing an emission below 5mg/Nm<sup>3</sup>. Swift fuels develops high-value fuels, fuel blendstocks and related technologies aiming to increase the value of hydrocarbons.

In Portugal, Casa Alta, an **olive oil** manufacturer, repeated an order for AT type cyclones as final stage dedusters after two rotary dryers for new drying lines, following the success of three previous installations. We are very proud to maintain the trust of these long-standing clients.

The [biomass combustion](#) area also maintained traction with projects for [Pinhoser](#) in Portugal and for [Groupe Lebel](#) in Canada (2 x 2MW<sup>th</sup> boilers burning sawdust and wood chips).

In the [powder recovery application](#), another pharma project using hurricane MK cyclones was secured for [Mannkind](#) aiming to recover active pharmaceutical powders with a median particle size as small as 2 microns (!). With German partner [Luebbers](#) we were just awarded a contract for the largest spray drying project with this broad solution provider so far!

Finally, we just got the most recent data from our cod and crab flavors Flash Drying project for [Firmenich](#) in Norway (pictured below). Results confirm our predictions: the plant reduced its losses in ~90% by replacing the existing cyclone with our [Hurricane RE type](#) separators!

Despite unpredictable times, these results help us maintain optimism for a good end of the year!



Pedro Ribas Araújo CEO

A handwritten signature in black ink, appearing to read 'Pedro Ribas'.

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## Finished Projects



Hurricane RE cyclone systems ( 4RE x ø1450mm ) optimized for emissions control and powder recovery of fish and seafood flavours.

## Ongoing Projects



Our cyclones are already delivered and under installation!

Hurricane Cyclone Systems ( 2HR x  $\varnothing$ 3500) optimized to increase goat infant formula powder recovery in a spray drying process!

**Tetrapak | Heerenveen, Netherlands | 2022**

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## Ongoing Projects



**Swift Fuels** ordered a **Hurricane cyclone system ( 8RE x  $\varnothing$ 1000 )** for a special project in fuel innovation.

**Swift Fuels | Indiana, USA | 2022**

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**Pinhoser** ordered a **Hurricane cyclone systems ( 4RE x  $\varnothing$ 1100mm )** to reduce particulate matter from wood chips combustion boilers.

**Pinhoser | Sertã, Portugal | 2022**

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**Hurricane MK** cyclone system (4MK x ø1000mm) optimized to reduce particulate matter from biomass boiler operating with a wet scrubber.

[Gianonne Poultry | Quebec, Canada | 2022](#)

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**CASA ALTA** made another order for a final stage deduster (2 x ø2900mm) to reduce their particulate matter emissions from the olive pomace dryer exhaust.

[CASA ALTA | Ferreira do Alentejo, Portugal | 2022](#)

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**Lübbers** ordered from 4 cyclones from ACS ( 2RE x ø2200mm + 1HR x ø950mm + 1MK x ø1700mm ) optimized to increase powder recovery in a spray drying process.

[Lübbers | Germany | 2022](#)

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**Group Lebel** ordered a **Hurricane cyclone system** ( 4MK x ø1000 ) optimized to reduce particulate matter from 2 biomass boilers operating with a multicyclone.

[Group Lebel | Québec, Canada | 2022](#)

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## UPCOMING EXHIBITIONS IN 2023

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