

**Omnia  
Technologies**  
Enabling Evolution

**BROCHURE**

# **Spirits technologies**





## WHO WE ARE

A leading platform for the processing automation and bottling technologies for the wine, spirits, beer, beverage, dairy, food, and pharma industries.

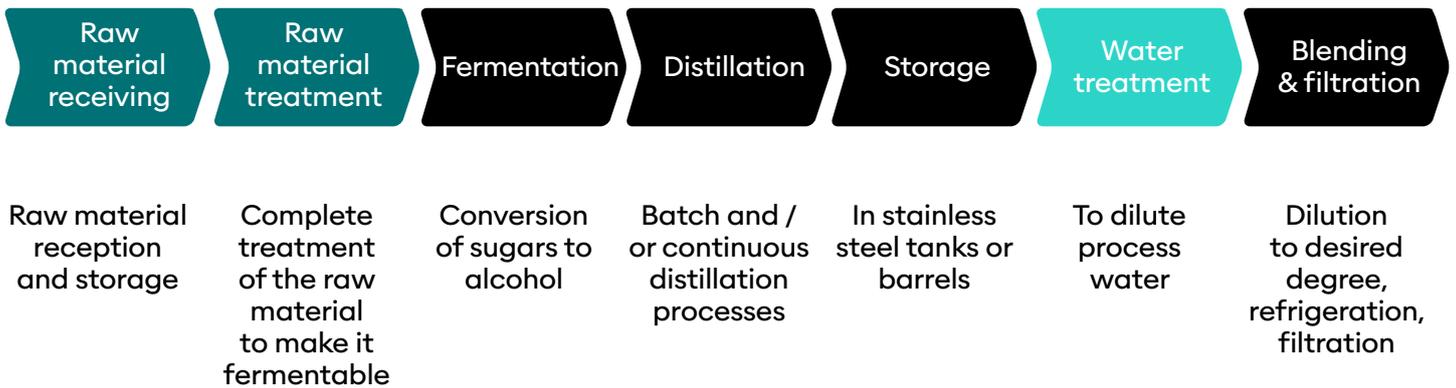
## WHAT WE DO

We provide to our customers:

1. **End-to-end integrated solutions**, from process to final packaging. We are a single partner providing customers turnkey solutions and sustainable automation lines.
2. **Tailor-made solutions**, with a high degree of machinery customization, designed around a set of industrialized based modules.
3. **Technical Support**, we are committed to support our customers through the dedicated Service team, located all over the world.



# From processing to final packaging



Project Management & System integration



The Group has developed an **integrated offering** for the entire production process of spirits products, from reception to packaging.



Bottling, Labelling & End-of-Line

**bertolaso**



## THE GROUP'S PRESENCE IN THE WORLD



A global company with a strong sales and after-sales presence. Close to those who produce, anywhere in the world.

## THE GROUP'S NUMBERS

+30

PRODUCTIVE UNITS

25

COMMERCIAL & SERVICE OFFICES

90

COUNTRIES

30.000

INSTALLATIONS

+400

R&D & ENGINEERS

+2.500

PEOPLE

## THE GROUP'S APPLICATIONS



Wine



Spirits



Beer



Beverages



Plant based beverages



Dairy



Fats, gelatines, cocoa butter



Pharmaceutical

# TOWARDS THE FUTURE

Our vision and values to enable evolution

## Our Vision

Inspired by our Italian heritage and our vocation for sustainability, we serve as technology leaders in the food, beverage and pharma industry, always at service of our customers, people and communities.

## Our Values

### 01. Technology

Innovation

With more than 400 engineers and technical specialists, we design and develop the most advanced and sustainable automation technologies.

### 02. Sustainability

Respect

Our purpose is to integrate sustainability into every aspect, contributing to the achievement of the global goals of the 2030 Agenda. The strategic plan is based on 4 basic pillars - Corporate, People, Impacts Reduction and Innovation - that expand into 20 macro goals, currently implemented by 90 initiatives.

### 03. Service

Accessibility

We are committed to providing and supporting our customers with 420 people in the service team mobilized around the world.

We are committed to being active promoters of a sustainable growth model, starting by valuing people, territory and the communities of which we are a part, and promoting the development of our partners and clients.

# 501

PATENTS

# 20

ESG MACRO TARGETS

# 420

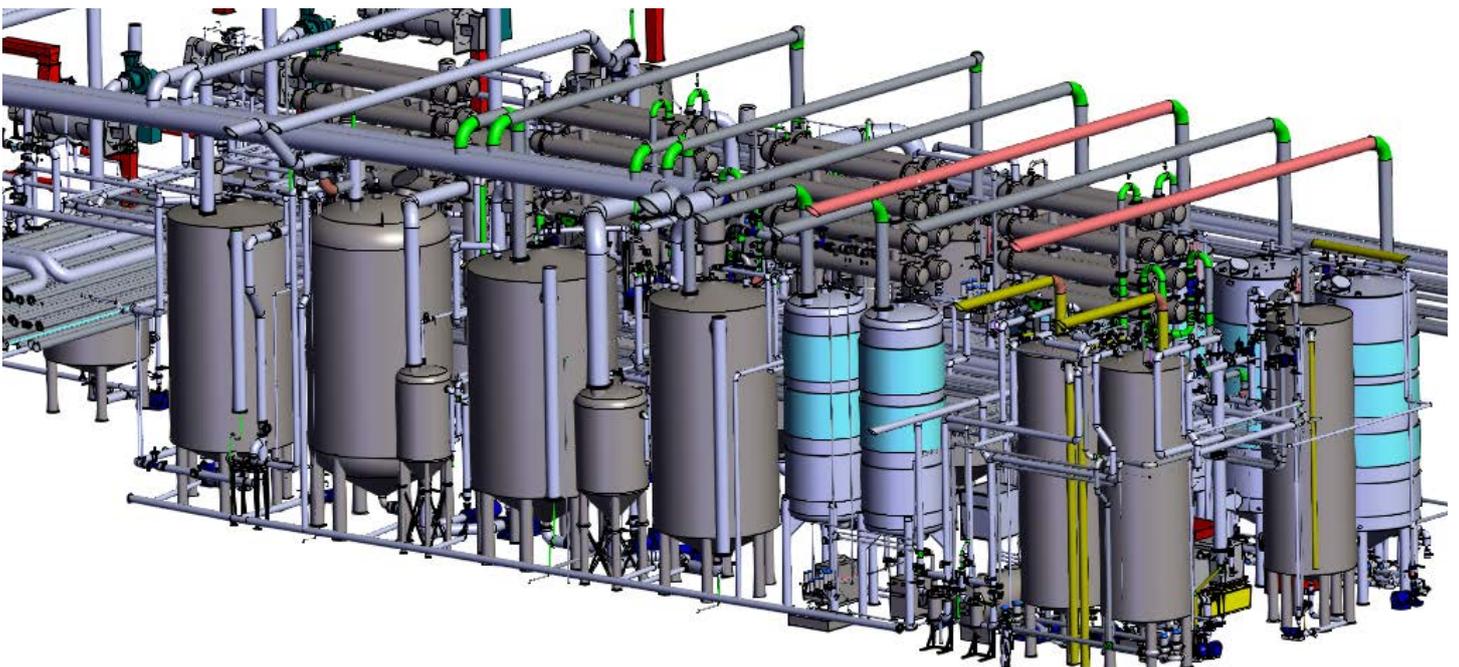
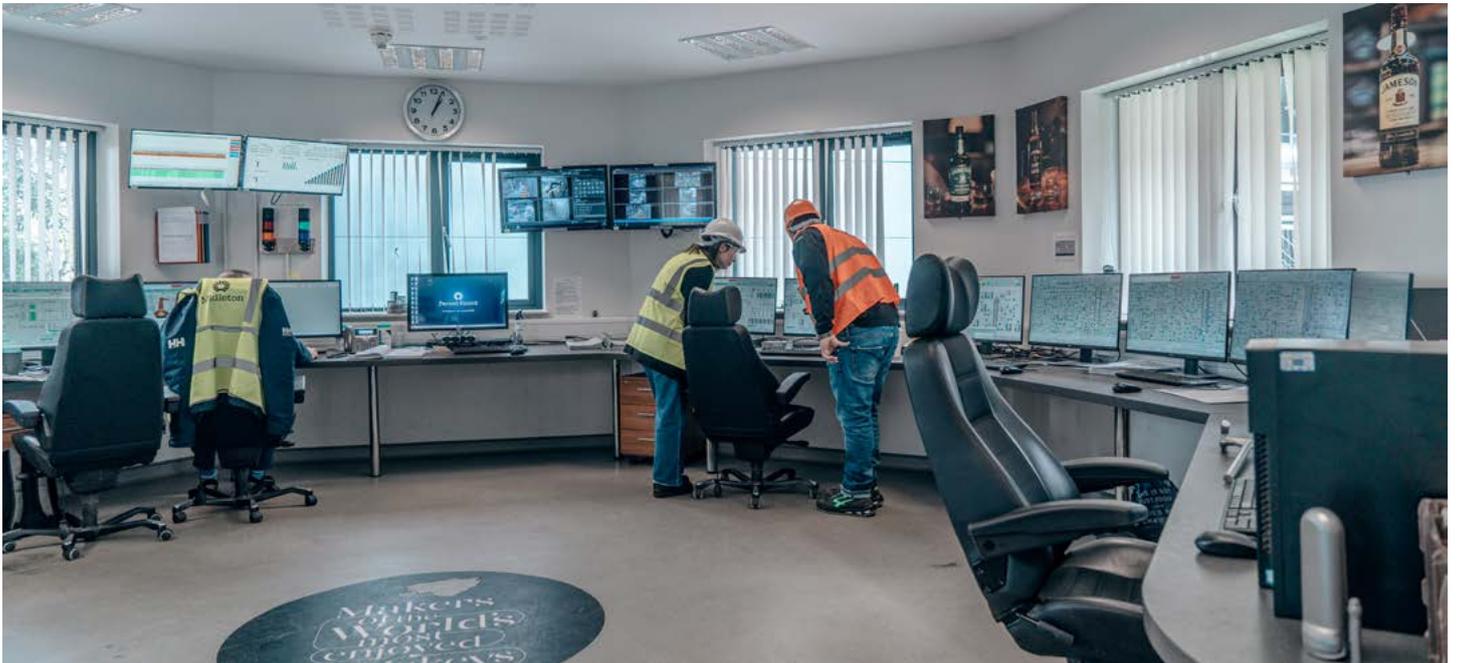
PEOPLE IN THE  
SERVICE TEAM



Scan the qrcode, discover our  
[Sustainability Report 2024](#).

## 01. Digitalization of the spirits

All Omnia Technologies solutions can be integrated with the new software for complete management of production flows: from raw materials receiving to final packaging under the terms of Industry 4.0 and 5.0



02.  
**Some of our sustainable products**

**In production**



**New ceramic membrane**  
for beverage filtering

Low room temperature  
**dealcoholation unit** with  
vegetative water recovery



System to reuse  
water multiple  
times in washing  
cycles

**Low Emissions Distillery,**  
which uses MVR  
(Mechanical Vapor  
Recompression) for  
completely green and  
sustainable production



**Plastic wrapped labels**  
**without any glue** between  
the label and the bottles

**Smart corking,**  
allowing single cap  
monitoring and  
predictive maintenance

Active Innovation  
Strategy with  
~400 Engineering  
and Research FTEs

**30+%**

reduction of **energy**  
consumption

**75%**

of **water savings**



target of **100% energy**  
from **renewable**  
sources by 2030



achieve **zero waste**  
by 2030

03.

## Our Service offer

- **Technical Support**

We are committed to supporting our customers with 420 people in the service team mobilized around the world.

- **Spare parts**

We offer a wide range of original spare parts and a team dedicated to repair services.

- **Machinery upgrade**

We know that technological progress is constantly evolving, and we want our customers to benefit from it.

- **Training**

We believe that knowledge is the key to success, which is why we offer tailored technical training courses.



# Project Category

## Standard distillation systems

- C7 Continuous distillation columns
- C5 Continuous pomace alcohol extractor
- C27 Batch still from 1000 liters
- C27 Mini Batch still from 300 liters



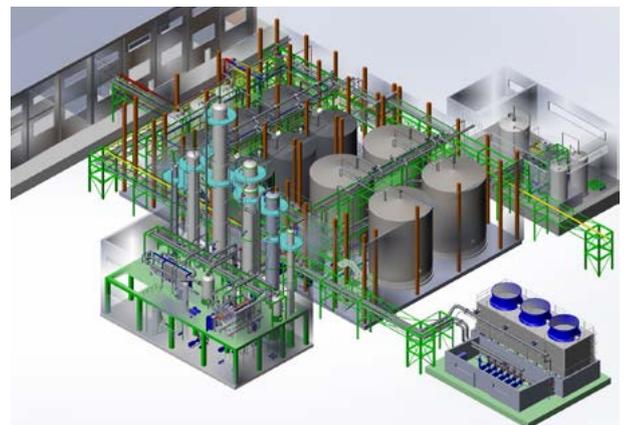
## Tailor made engineered solutions

- Micro-Distilleries
- Craft Distilleries
- Spirits batch production
- Spirits continuous processes
- Extra Neutral Alcohol production
- Bio-Ethanol plant
- Microfiltration Treatments
- Bottling
- Labelling
- End of Line



## Complete Factory

- Often the project involves the supply the complete production units. From raw material intake to final products storage.
- Distillation BU has the competence to provide EPC projects of such complex systems.
- We are currently working to build a brand-new Carbon Neutral Single Malt Whisky Plant in Campbeltown.



# Raw materials

The range of treated raw materials processed is wide:

**Winery by-products** (marc, lees, wine)



**Cane and beet molasses**

**Cereals:** corn, wheat, barley, rice, etc.



**Agave**

Other **starchy substances:** potatoes, cassava, chestnuts, etc.



Other **sugary substances:** sorghum, grapes, cane and beet juice, etc.

**Fruit:** apples, pears, apricots, cherries and plums etc.



**Aromatic plants, seeds and berries**

## C7 CONTINUOUS DISTILLATION COLUMNS



C7 columns for continuous distillation of wine, light wine and phlegm from pomace and fermented fruit are part of Cadalpe's most original tradition and are used to guarantee superior quality end products (brandy, grappa, fruit distillates).

The columns are made in stainless steel and copper and come complete with connections, accessories and automatic devices.

Special devices:

- Alcoholic vapour desulphurization equipment (enhances quality);
- Methyl alcohol extraction (reduced to below legal limits);
- Amyl oils extraction (flavour refinement).

## C5 CONTINUOUS POMACE ALCOHOL EXTRACTOR



As an alternative to conventional stills this equipment is highly efficient and effective: the C5 patented continuous pomace alcohol extractor can process a remarkable amount of raw product per day, sparing labour and fully preserving the quality of distilled drinks.

Other features:

- Uniform steaming of pomace due to slow mixing and the special shape of the alcohol extractor chamber;
- Automatic control of the pomace level in the alcohol extractor chamber by integrated regulation of input and output;
- Prevention of pomace overheating and scorching by using low temperature pre-saturated steam, which reduces unpalatable volatiles in the extracted pulp.

The alcoholic phlegm from the alcohol extractor is rectified into grappa or alcohol as it is extracted, or later by means of discontinuous or continuous columns. Made entirely in special stainless steel or copper (on request). Alternative application: the extraction of essences from herbs or vegetal elements.

### C27 BATCH STILL FROM 1000 LITERS



Specialising in the most reliable and efficient distilling, the batch still is designed for medium to small sized distilleries that produce top quality distillates (schnapps from grapes or fermented fruit, brandy, grappa).

- Manufactured with refined production techniques, using selected materials whose nature and characteristics comply with the strict quality standards that have always inspired Cadalpe;
- Used for manual or automatic cycles with monitoring of the main stages of the process, temperature optimization, degree of exhaustion and head and tail separation;
- Can be equipped to operate in a vacuum and the various components are structurally balanced in a line that is attractive and compact;
- Has already won numerous important customers who have chosen it for their production and the certainty of our professional standing.

### C27 MINI BATCH STILL FROM 300 LITERS



C27 mini batch still is an extremely versatile distillation plant, designed for those who want to approach the world of distillation and produce top quality distillates (schnapps from grapes or other fermented fruit, brandy, grappa, whisky, gin, beer distillates).

- Manufactured with refined production techniques, using selected materials whose nature and characteristics comply with the strict quality standards that have always inspired Cadalpe;
- Used for manual cycles;
- The various components are structurally balanced in a line that is attractive and compact;
- Customization possibility with suitable tools.



## MICRO-DISTILLERIES

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The main characteristics are:

- Micro-Business, family owned
- Batch production
- Small capacity (20÷300 L Pot Still)
- Extremely simple equipment
- Direct fire or electrical resistance are the most common heating source
- Gin is the typical production

## CRAFT DISTILLERIES

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The main characteristics are:

- Perfect for Connoisseurs
- Small Business, often family-run
- Batch production (typically)
- Small capacity (100÷1000 L Pot Still)
- Simple technologies, manually handled
- All kind of Spirits can be produced (polyvalent)
- This plant must appear as a “gem” to the owner and its customers

## SPIRITS BATCH PLANT



The main characteristics are:

- Flavorsome products
- High added value. Noteworthy market price
- Capacity range: 0.5 ÷ 4 MLA
- From simple to cutting-edge technologies
- Organoleptic features must be absolutely conserved
- This sector is rapidly moving to sustainability

Plants for the production of:

- Grappa
- Brandy
- Cognac
- Fruit distillates
- Whiskey
- Rum
- Vodka
- Gin
- Tequila
- Etc..

\* MLA = Million Litres per Annum

## SPIRITS CONTINUOUS PLANT



The main characteristics are:

- Continuous plants with Columns made of Copper and Stainless Steel. Designed for any production capacity required;
- Heated by direct or indirect steam, electricity, flame or energy recoveries;
- Designed for distillations in atmospheric, pressure or vacuum conditions.

Plants for the production of:

- Grappa
- Brandy
- Cognac
- Fruit distillates
- Whiskey
- Rum
- Vodka
- Gin
- Tequila
- Etc..



## NEUTRAL SPIRITS PLANT

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The main characteristics are:

- Level of Congeners is selected to conserve the right level flavors and odors
- Perfect basis to create blending
- Low product cost (per LPA)
- Capacity range: 0,6 ÷ 80 MLA
- Energy recovery systems are critical to minimize production costs
- Fully automated processes

Plants for the production of:

- Grain Whiskey
- Light Rum
- Tequila

## EXTRA NEUTRAL ALCOHOL PLANT

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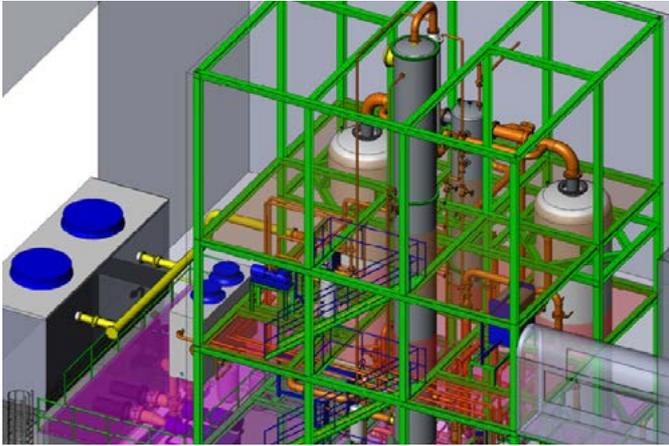


The main characteristics are:

- The higher possible Ethanol strength, achievable per Distillation
- Congeners concentration is reduced to the minimum (< 1 ppm)
- Perfect as Solvent, Liquors and Essence extractor
- High Capacity: 0,6 ÷ 80 MLA
- Industrial-oriented technology

## BIO-ETHANOL PLANT

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The main characteristics are:

- Pure Ethanol. Alcohol strength must be higher than 99.8 %
- Molecular Sieves must be used to obtain this product. It is not possible with distillation only
- Used as additive for Fuels
- Large scale plant (> 30 MLA)
- Full industrial configuration

## COMPLETE FACTORY

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- The project can involve the supply of the complete production units. From raw material intake to final products storage including wastewater treatment
- Omnia can provide EPC projects of such complex systems

\* EPC = Engineering Procurement & Construction



## ESSENTIAL OIL PLANT

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Omnia Technologies designs and builds plants for processing officinal plants for the production of:

- Essential oils
- Aromatic waters
- Concretes or oleoresins
- Extracts

## SOLVENT RECOVERY IN THE PHARMACEUTICAL AND CHEMICAL SECTOR

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Taking advantage of continuous or discontinuous distillation processes, Omnia Technologies designs and builds plants for the specific recovery or separation of solvents used for various processes.

Our company guarantees the confidentiality of possible information deriving from the customer's own know-how.

## WASTEWATER PLANT (WWTP)

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According to the specific characteristics of each raw material, Omnia Technologies designs and supplies discharge water treatment plants using evaporation, anaerobic digestion and organic treatment processes, also combining them and complying with the parameters set by law.

## WINE PRODUCT/BY-PRODUCT PROCESSING

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Wine production is not the end of the grape's cycle.

With its know-how, Omnia Technologies designs and builds plants for:

- Continuous disalcoholation of fermented marc;
- Wine lees distillation;
- Production of wine distillates (brandy), grappa, extra neutral alcohol, raw alcohol etc., with atmospheric plants, double or triple effect, under vacuum with energy saving;
- Calcium tartrate extraction from marc and lees;
- Recovery of skins and dry grape seeds.



## FRUIT PROCESSING

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Through its know-how, Omnia Technologies has developed a unique fruit processing technology. Unlike other processes, this type of column allows ground fruit to be processed and the stones to be separated, leaving intact the part that is essential for the production and subsequent extraction of the typical aromas and flavours of each fruit.

## CEREAL PROCESSING

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- Through cooking and liquefaction, the starch contained in cereals is converted into sugar, allowing it to ferment;
- Through its experience, Frilli has carried out these processes both with the aid of natural enzymes (diastatic malt) and through traditional chemical enzymes (alpha-amylase and glucoamylase), also experimenting with high gravity fermentation, obtaining fermented mash with a high alcohol content;
- Our customers have turned to us to obtain, using cereals as a raw material, finished products such as extra neutral alcohol, vodka, whisky and Scotch whisky.

## MOLASSES PROCESSING

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- This is the most widely used raw material for the production of alcohol;
- It can be divided into two groups: molasses from sugarcane, which are found throughout Africa, Asia, Central America and South America, and molasses from sugar beet, which are found throughout Europe, the USA and North Africa;
- Designing these plants requires expertise and attention to detail in order to avoid standstills, which can be frequent due to the significant amount of sulphates (especially in the case of sugar cane molasses) that build up inside the plant;
- With its technological solutions, Frilli has drastically reduced the frequency of cleaning operations required due to the presence of these sediments.

## MICROFILTRATION TREATMENTS

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- Automatic matrix manifold for fast product changes;
- Break tank to optimize filling speed over long distances;
- Safety filtration to block macroscopic objects;
- Complete product recovery from bottles rejected during bottling;
- Integrated CIP system for both self-cleaning and filling machine cleaning;
- Self-draining design and tailor-made layout;
- Compliant with hazardous regulations thanks to safety barriers, interlock devices, etc.



## BOTTLING

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Fully automated plant for bottling spirits, characterized by high production capacity and optimal product handling without loss of alcohol content.

Provides maximum flexibility for different bottle sizes and caps, with automatic adjustments. It includes high-precision electropneumatic rinser and filler, multifunctional capper, capsuling machine, orienting machine and electronic labeling machine.

The operator can manage the entire system, equipped with electronic controls and integrated software for traceability and quality at every stage.

## CAPSULING

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Nortan's Prism Rolling Capsulators are the most suitable solution for the distribution and rolling of poly laminate and tin caps used in the spirits industry.

Alfatre provides solutions suitable for the orientation and elevation of T-shaped caps typically used in the industry.

## LABELLING



The wide range of labellers we offer can meet all the requirements of a modern bottling and packaging line. Our long experience in the field enables us to offer the market highly reliable machines with high application flexibility.

- Wide range of medium and high-speed labellers
- Roll-fed, cold glue, self-adhesive, hot melt
- For cylindrical and shaped containers (glass and plastic)
- Camera vision system
- Zero backlash
- Settings set-up via HMI
- Full servo driven bottle plates
- Integrated coders
- Flexibility
- Ergonomic design

## SECONDARY PACKAGING



Omnia Technologies' secondary packaging range includes high-performance wrap-around case packers, tray packer, continuous tray formers and robotic solutions. Designed for efficiency and flexibility, these systems ensure secure, high-speed packaging, seamless integration, and easy format changeovers, meeting the demands of modern production lines.

- Wrap arounds
- Tray packers
- Continuous tray formers
- Cartoning robots
- End load cartoning machines



## PALLETISING



We offer a wide range of palletizing solutions tailored to meet the diverse needs of the packaging industry. Our expertise in palletizing technology includes traditional palletizers, robotic palletizing systems and hybrid solutions that combine the best of both approaches.

These machines are designed for high efficiency, flexibility, and adaptability to various industries, including wine & spirits, food, beverage, pet food and other industrial sectors.

- High level, low level, robotic (high/low)
- Opening platform
- Models: bomb-bay door, "rake", tulips, magnetic, vacuum, perimetric pads
- Twisterbox system (continuous layer formation), high speed, gentle product handling
- Low tco
- Low maintenance
- Modularity and customization

## MULTIFUNCTION ROBOTS



In order to meet the needs of individual customers, we are able to use various robotic systems belonging to the main international brands.

Thanks to the robotic application, it is possible to create machines with different possibilities of use, the characteristics of which are flexibility, ease of maintenance, ergonomics, speed of execution and high automation.

- Cartoning robots with self-regulating head and automatic changeover
- Craters and decraters
- Pal & crating robots (in one machine)
- Depal & decrating robots (in one machine)
- Automatic gripping head changeover system

## PALLET STRETCH WRAPPING



Discover our cutting-edge range of pallet stretch wrappers, featuring rotating pallet and rotating ring models designed for superior efficiency and automation. Engineered for high-performance pallet wrapping they can be equipped with automatic pre-stretching changeover systems for uninterrupted productivity.

Perfect for securely wrapping pallets, also with kraft paper, they ensure maximum protection and reliability for your shipments.

- Models: fixed pallet, rotating pallet, rotating pallet (low speed), rotating pallet (kraft paper)
- Upto 160 pallet/hr
- >400% prestretching value
- 500mm/750mm/1.000mm film height
- External welding unit
- Automatic reel changeover
- Roping system
- Anti-dust system (top cover)
- Waterproof system
- Kraft paper application – “go green” solutions

## CONVEYING SYSTEMS



In our factories, we manufacture the conveyor belts and conveying systems that seamlessly integrate into our production lines. We think that a system works well when the connections between machines are efficient and reliable.

We focus on making top-notch conveying systems that improve performance and boost productivity for the whole operation.

- For pet bottles, glass bottles, cans, jars, carton boxes, plastic crates, shrink packs, clusters & multipacks, kegs, pallets, and more
- Conveyors
- Accumulation tables
- Aligners
- Bottle/pack elevators/lowerators
- Pallet elevators
- Low energy consumption
- Automatic format changeover

# Sustainable case histories

## Witchburn Distillery | Brave New Spirits (BNS)

Brave New Spirits are a Glasgow-based independent bottler and blender of Scotch Whisky, and owners of the Witchburn Distillery development in Campbeltown. Working globally, the Brave New Spirits portfolio includes Single Malt & Blended Scotch Whiskies for multiple business sectors, including specialist retail, whisky clubs, supermarkets, travel retail, and own-label”.

**Our objective is to produce a range of high-quality Whisky in the most environmentally friendly way possible.**

### Flexibility

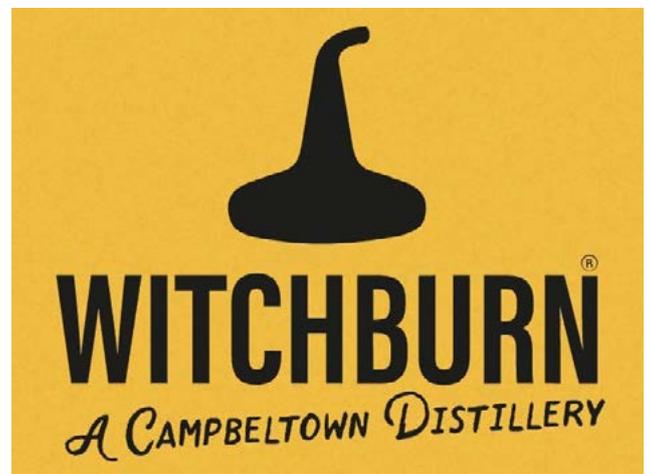
The design of the distillery must enable us to produce at least three different Spirit types; non peated, peated & heavily peated with varying malt & yeast types, different fermentation times and changeable distillation temperatures.

### Water Management

Our desire is to recycle as much water as possible. A closed loop cooling system minimizes the amount of water required and gives a much higher level of consistent cooling. Reducing the variance of cooling temperatures throughout the seasons and minimizing the impact of seasonal contaminants.

### Energy Management

Energy usage is typically the second biggest cost for a distillery, so minimising energy usage is a main sustainability driver for the distillery. Sourcing our electricity from wind farms and designing the process to recover as much energy as possible, will enable the distillery to run with renewable sources.



# Midleton Distillery | Irish Distillers Limited (IDL)

## Client Profile

Midleton Distillery produces Pot and Grain Irish Whiskey. Its Spirits are marketed as Jameson, Redbreast and Midleton label.

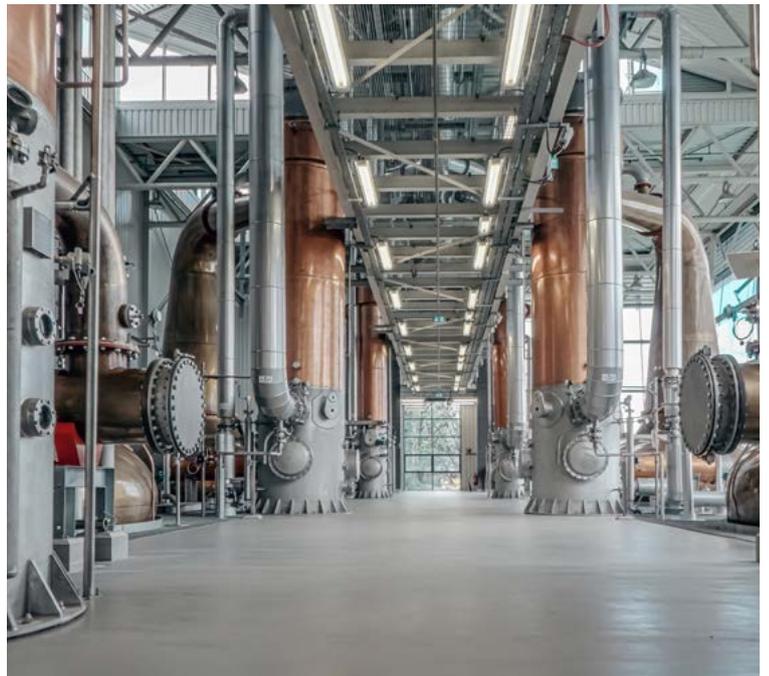
Irish Distillers were searching for a partner to convert the current Pot Still process to a low-emissions approach.

## Project Description

- **Construction and procurement** of new **Steam Generators** exchangers able to recover energy from Alcoholic vapors.
- **Engineering** of the **complete distillation unit** to convert the current technology to a **sustainable cutting-edge** set-up.
- **Supply** of all new required **automation** to ensure **energy demand minimization** in all the process steps

## Main Project Highlights

- Customer decided to work with Frilli, since we **demonstrated** to know the possible impact of the plant modification on the **final product's flavor**.
- Whiskey **organoleptic profile** has been **certified** with a **dedicated test set-up**.
- A follow-up project aimed at **double** the **Plant capacity** with **low-emissions** approach has been already started (engineering phase).



Video of  
Midleton  
Distillery









**Omnia Technologies**  
Via Feltrina, 72 - 31040,  
Signoressa di Trevignano (TV) Italy

Tel. +39 0423 6772  
Fax. +39 0423 670 841

[www.omniatechnologiesgroup.com](http://www.omniatechnologiesgroup.com)  
[help@omniatechnologiesgroup.com](mailto:help@omniatechnologiesgroup.com)