

# TC019\_ICG

## Kick-off meeting

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**Glass & Health Safety & Environment Director**

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**28/11/13**



**vidrala**

# Our products

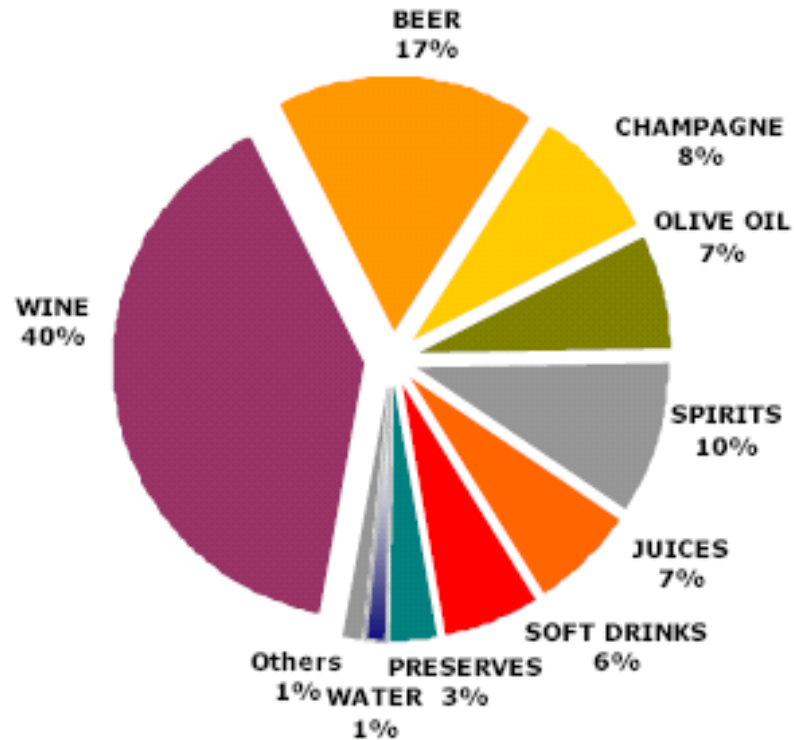


# Our customers



# Our market

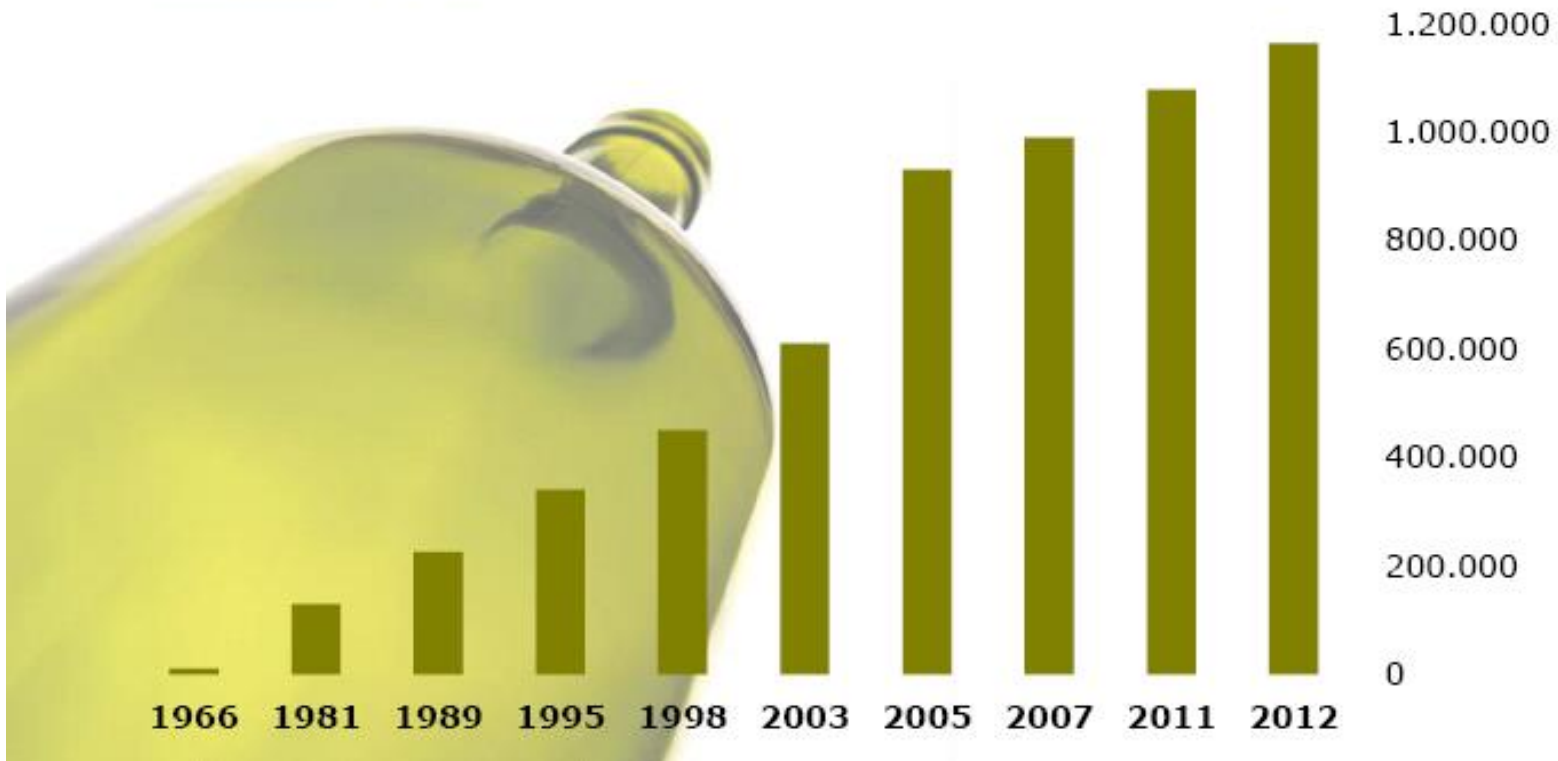
**SALES BREAKDOWN BY PRODUCT**  
5 years average. As a percentage of sales



# Our production

**PRODUCTION  
(TONS OF GLASS)**

**C.A.G.R.: +11%**



# Our process

## ✓ 6 Plants in 4 countries

- ✓ Headquarters in Basque Country-Spain
- ✓ 3 in Spain
- ✓ 1 in Portugal
- ✓ 1 in Italy
- ✓ 1 in Belgium

## ✓ 13 Furnaces

- ✓ End-port (60-150 m<sup>2</sup>)
- ✓ Regenerative
- ✓ Natural gas
- ✓ Electric melting (<5%)

- ✓ Colour: flint, olive green, dead leaf,
- amber, emerald green

## ✓ 43 manufacturing lines

- ✓ Pull: 1.200.000 tons/año

- ✓ More than 1.800 employees





# Our energy management

## IMPLEMENTATION OF ENERGY MANAGEMENT SYSTEM (ISO 50001)

- ✓ **Standardization of energy use**
  - ✓ Target: stability and cost
  - ✓ Conditions assessment: Analysis influence of pull, moisture, cullet...
  - ✓ Conditions Change management
  
- ✓ **Energy daily management**
  - ✓ Energy targets by shift based on pull, cullet, colour...
  - ✓ Daily energy reporting by shift
  - ✓ Every deviation assessment → corrective actions
  - ✓ Standardization of best practices
  
- ✓ **Continuous emission monitoring (CO/Nox/Sox)**
  - ✓ Combustion control
  - ✓ Continuous monitoring in chimney
  - ✓ Discontinuous monitoring in regenerators
  
- ✓ **Furnace maintenance**
  - ✓ Equipment
  - ✓ Refractory

**TWO YEARS WITHOUT FURNACE REBUILT  
SAME ENERGY CONSUMPTION**

# Our expectations

- ✓ **Developing best practices in energy consumption**
- ✓ **Understanding relationships between glass composition and energy**
- ✓ **Encouraging new technologies/techniques**