# AMINE MODULE

## Upgrading - Sweetening of natural gas and biogas

Our **absorption system with amine towers** allows for the treating of gases from different sources with high $CO_2$ and $H_2S$ content. This process is very efficient because removes these components due to its affinity with amine solvents. Our solution consists of contactor towers where the contaminants are absorbed and the treated gas is obtained; and regenerative towers (in a closed cycle) where the amines recover their absorption capacity.

It should be noted that the elimination of $H_2S$ is essential for the use of gas or biogas as an energy source, since its presence represents a significant safety danger and it can negatively affect the performance and useful life of the equipment used in the combustion of said gases.

While the absorption process is carried out, the contaminated amines are regenerated in the tower dedicated for this purpose. In this way, the upgrading process is continuous.

The configuration of the amine towers –like other of our solutions– is fully tailored to the customer, adjusting to the required input and output conditions.

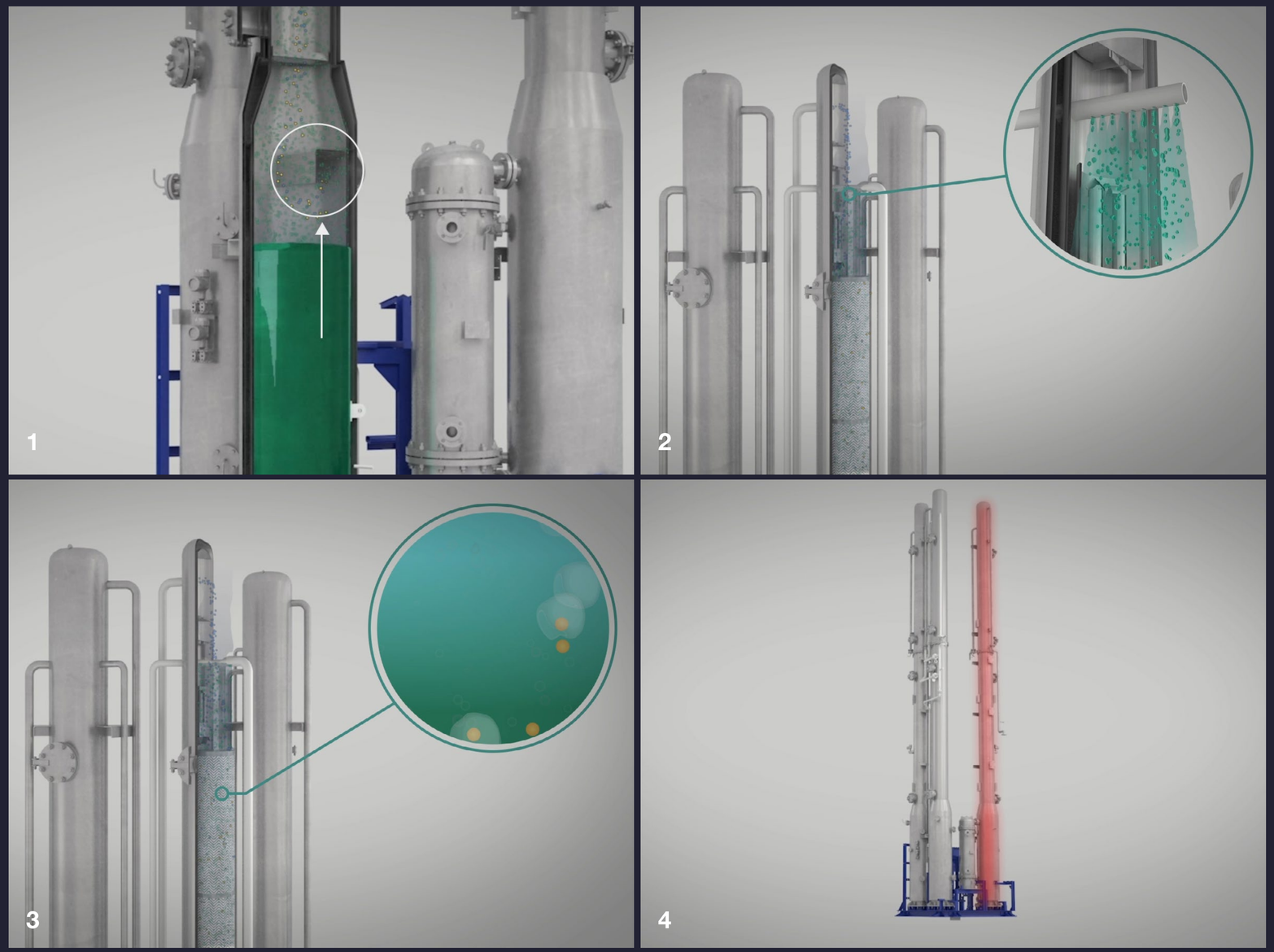
GALILEO Technologies

Ivinhema, Mato Grosso do Sul, Brazil

Process description:

# Amine absorption

**1.** Gas inlet to the absorption tower.
**2.** Amine spray.
**3.** Capture of $CO_2$ and $H_2S$ by absorption.
**4.** Closed cycle amine recovery tower.




GALILEO Technologies

## Case of success:

# Amine module for Adecoagro biogas upgrading.

| | |
|---|---|
| **Location** | Brazil |
| **Gas source** | Biogas from stillage, residue from the production of ethanol and cane sugar. |
| **Production application** | Bio-GNV |
| **Process gas flow** | 12.000 $Sm^3/D$ |
| **Water steam flow** | 15.700 $Sm^3/D$ |
| **Inlet pressure and temperature** | 4 barg and 45 °C |
| **Outlet pressure and temperature** | 4 barg and 70 °C |
| **Inlet $H_2S$** | 2% |
| **Outlet $H_2S$** | 0.06% prior to entering the activated carbon towers for its final removal. |

GALILEO Technologies

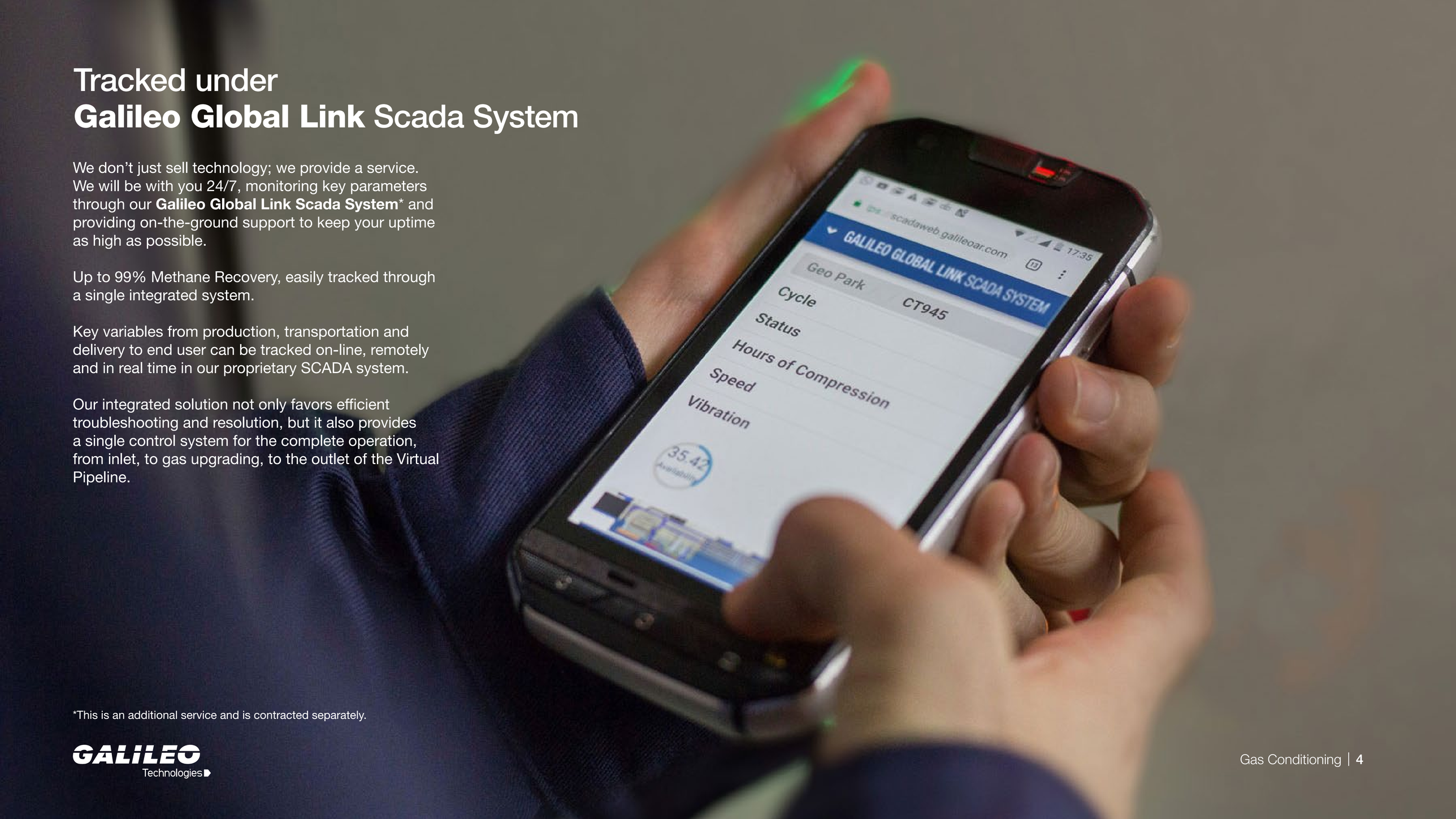
# Tracked under
# **Galileo Global Link** Scada System

We don’t just sell technology; we provide a service. We will be with you 24/7, monitoring key parameters through our **Galileo Global Link Scada System*** and providing on-the-ground support to keep your uptime as high as possible.

Up to 99% Methane Recovery, easily tracked through a single integrated system.

Key variables from production, transportation and delivery to end user can be tracked on-line, remotely and in real time in our proprietary SCADA system.

Our integrated solution not only favors efficient troubleshooting and resolution, but it also provides a single control system for the complete operation, from inlet, to gas upgrading, to the outlet of the Virtual Pipeline.




*This is an additional service and is contracted separately.

GALILEO Technologies

GALILEO
Technologies

Follow us:


**info@galileoar.com** **www.galileoar.com**

**New Jersey**
333 Cedar Ave
Middlesex, NJ 08846
United States

**Buenos Aires**
Av. General Paz Provincia 265
(B1674AOA) Sáenz Peña,
Partido de Tres de Febrero
Pcia. de Buenos Airees,
Argentina

**São Paulo**
Rua Doutor Renato Paes de
Barros, 750, Cj. 32,
Itaim Bibi, São Paulo, SP, Brasil
CEP 04530-001