

Recycling Closet automatic (RCaut) is used for the hygienic and effective handling of urine, faeces and toilet paper that are packed in the GAIA biomaterial to prevent pollutant emissions, increase biogas production, and promote the recycling of plant nutrients using biofertilizers in plant production.

Some benefits: • Hygienic and convenient handling of human waste in all phases, from toilets to biogas plants. • Reduce total water consumption. • Avoid contamination of water and air. • Increased biogas production leads to better use of bioenergy (solar energy is in everything that comes from the plant and animal kingdom). • Higher use of biofertilizers consisting of humus and microorganisms beneficial to the soil. Humus substances and microorganisms contain at least 16 chemical elements necessary for plant growth and development. This system minimizes the use of synthetic agricultural chemicals, i.e. fertilizers and pesticides, which means cheaper food production and less risk of residues of synthetic chemicals in food. • Remedies of drugs, pathogens and weed seeds will be inactivated during biological transformation (i.e. methane fermentation) in technologically advanced biogas plants.

The whole system will be cheaper and healthier for citizens, and the negative pressure on the environment and the climate will decrease.



Fig. 1: In plastics like biofilm from GAIA company are sealed tea and sausages by packaging machine HACONA Type S-320. It shows that it is possible to use this method for sealing human waste in Recycling Closet automatic (RCaut).



Fig. 2: Prototype **RCaut XX** from above shows how the film of the biomaterial covers the toilet ring for each visitor to have a new surface to sit on.

The prototype RCaut XX will be modified as soon we can receive from company HACOMA packaging machine that is adjusted to RCaut specially requirements.