

THINK!



**THINK!** The Innovation Knowledge Foundation  
"PASSION CHANGES THE WORLD"

Home

Chi siamo

Ricerche &amp; Analisi

Innovation Map

News &amp; Eventi

Blog

Sostienici

### Think! mission

THINK! è un think tank non profit internazionale che ha lo scopo di diffondere la conoscenza su come le tecnologie digitali possano attivare processi di innovazione e sviluppo sostenibile

## ByoHyst - Bits of Future: food for all

CATEGORIA: Produttività (Vedi tutti)

TAGLINE: The Hyst processing allows the optimal exploitation of raw materials for a better food availability

KEYWORDS: BioHyst, Umberto Manola, food resources, renewable energy, biomass, Africa.

WHERE: Italy



Tecnologie

Qualità della vita

Produttività

eGovernment

Digital divide

By making the Hyst plants available, the "Bits of Future: food for all" project aims to warrant both food security and the sustainable development of the involved regions, favouring the local participation to the activities in the meantime. After the excellent results obtained with raw materials widely available in Europe, the humanitarian project intends to proceed by experimenting with the biomasses available in African states and then installing in situ the first Hyst plants for processing these local biomasses. During the past year [Biohyst](#) has focused its efforts in the use of by-products from milling industries (bran), which are widely available and rich in essential macro and micro nutrients. Results were far beyond those expected. From bran we have flour with a high content of protein, vitamin and minerals: its use is therefore particularly suitable in contexts of undernutrition and malnutrition. The World Food Program has estimated that improved access to vitamins and zinc is all that is needed to save 680,000 children every year. The flour obtained with the Hyst system contains significant quantities of vitamins of the B-group, vitamins E and A as well as important micro-nutrients such as iron and zinc. The characteristics of this product are such that it is particularly desirable even in the markets of industrialized countries. In the European Union it could be labelled as having "high protein content", "high vitamin B3 content", "high iron and zinc content", as well as being a "source of vitamin B1, B5, B9, E". Just to give an idea of its added value, the Hyst treatment of €100's worth of raw material produces flour with a market value of about €500. A great effort was also made in improving the nutritional features of cereal straw. These biomasses, of no value to us, are important fodder in many African countries because they are the only available feed during the dry season. The Hyst process increased the nutrients and improved the digestibility thus obtaining feed with characteristics similar to those of top quality hay. As far as food for human consumption is concerned, by only using the waste from wheat milling it is possible to get about 20 million tons of flour with the above mentioned characteristics: sufficient to feed over 100 million people. The project that [Biohyst](#) intends to carry out, created and promoted by the Association Scienza per Amore (Science for Love), is not limited to mere food aid: the objective is to give the African countries involved access to Hyst plants so that they may enhance their local agricultural resources (food and not food) and provide its people with tools for a dignified human existence, freeing themselves from dependence on industrialized countries. The first step in this direction will be to finalize agreements with the African governments interested in experimenting this technology on native biomasses. International organisations such as UNIDO and IFAD have indicated their interest in the [Biohyst](#) project. ENEA, through its representative Dr. Pignatelli, has highlighted how Hyst technology is suited to solving the conflict between meeting the energy needs of the industrialized world and the need for food of poor countries.

### The Hyst Technology

Hyst technology is the result of a funding project that has lasted for over 15 years and the [Biohyst](#) company is the sole holder of all future and present industrial developments. [Biohyst](#) and Umberto Manola met thanks to a shared intent. An intent based on the will to intervene in problems concerning world hunger: one of the most urgent issues placed by international political communities in the agenda of the so called "Millennium Goals". The Hypercritical Separation Technology is the outcome of over forty years of research of Eng. Umberto Manola in the field of milling and, in general, the processing of biomass. It is a system that can make the most of biomass, ensuring a better exploitation of food resources and the availability of renewable energy without subtractions of raw materials to the regular production. The Hyst processing allows the optimal exploitation of raw materials, byproducts and waste, with very low power consumption and without releasing liquid or gaseous pollutants in the environment. Ultimately, the systems exclusively marketed by [BioHyst](#) may represent an effective response to increasingly urgent

requirements, including security and food availability, environmental protection and promotion of sustainable development. The Hyst technology consists of a set of machines diagrammed to process primarily biomass, but also inorganic substances. The system causes the disaggregation of the plant structure through reciprocal collisions between the particles within a current of air, without the aid of grinding rolls. In this way the raw material remains at room temperature, thus preserving its nutritional and organoleptic properties. The product of the disaggregation is then split into separate fluxes, which can be used individually or mixed. The systems, which constitute self-sufficient units, are modular; by varying their number is then possible to adjust the production capacity to the availability of biomass and/or the demands of the market.

**MORE INFORMATION:**

**Website:** [www.biohyst.it](http://www.biohyst.it)

**Contact:**

- [Press@biohyst.com](mailto:Press@biohyst.com)

- [info@byohyst.com](mailto:info@byohyst.com)

**Video:**