TCI's REVOLUTIONARY TECHNOLOGY PROVIDING OPPORTUNITIES FOR THE CREATION OF NEW INDUSTRIES, NEW JOBS AND SUSTAINABLE ECONOMIC GROWTH FOR REGIONAL COMMUNITIES.

The new Non-Drug Industrial Hemp Harvesting Decortication technology invented and patented by Textile and Composite Industries Pty. Ltd. in Victoria ("TCI"), Australia enables farmers to produce three valuable products from the one crop right on their farm for sale from the farm gate.

The three Valuable Products are:

1. Fibre: to manufacture textiles and composite materials.
2. Hurd: to manufacture building products, paper, biomass, biofuel, and horse and animal bedding.
3. Grain and seed: to manufacture a range of cosmetic, health and food products.

Local industries in the relevant regional area can immediately acquire these products from the farmer and further value-add to the hemp fibre, to the hemp hurd, and to the hemp grain. This will bring significant income back into the farm and to the regional community while generating valuable new jobs.

The hemp fibre, using TCI's decortication technology, is clean and undamaged and is the perfect form of hemp fibre to be made into a vast range of products from paper, to textiles, to composite materials, to replacing a vast range of environmentally-disastrous plastic products.

Each hectare (2.47 acres) of well-grown hemp will provide 3 tonnes of fibre, 7 tonnes of hurd and 1 tonne of grain. Hemp crops can be planted in spring through to autumn and can be harvested for fibre only in 90-100 days. Dual crops, that is, those matured to

provide seed, can be harvested in 140 days. Some warmer climates will permit even 3 plantings pa!

Hemp is well known as a sequester of greenhouse gasses and uses only a fraction of the water used in the production of cotton fibre. Hemp uses a similar quantity of water as wheat or corn. Hemp needs no herbicides or pesticides and is ideal for growing organically or biodynamically.

The availability of this fibre resource coming from local farms into local industries will enable much needed new commercial activity and generate many jobs. There will be jobs in degumming mills for refining the fibre for hemp textiles, blending with wool and blending with cotton and other fibres. Because TCI-decorticated hemp fibre can be spun on state-of-the-art cotton spinners, new mills can be established. For the first time since the 19th Century, with TCI's revolutionary decortication technology, hemp fibre can be economically and competitively grown and utilised.

The fibre can also be used as a feed source for the latest technology: 3D printing. So many local industries will be created through 3D printing, and hemp farmers can benefit.

Where will the jobs be generated? There will be furniture makers and other wood fabricators using hemp fibre composite products for its strength and durability. There will be carpet-making. There will be a myriad of industries utilising needlepunched and hydroentangled hemp fibre and composites. In most cases hemp fibre can replace fibreglass and even carbon fibre. There will be jobs generated in paper making.

Every regional community needs these types of high-value opportunities to process locally produced products and to employ local people, to develop skills and expand civic infrastructure. For too long, regional communities have been passing the value up the chain to others, with disastrous local effects.

The hemp hurd can be the basis for many building product development industries from particle board and craft wood manufacture and those industries using it. Hempcrete buildings and materials to build fresh produce depots, warehouses, hempcrete building blocks, and new homes will be made for local use and materials sold to building projects in the cities. It will be used as feedstock for ethanol digesters making fuel for local industry. Hurd will be used for electricity generation, insulation for existing houses, horse and animal bedding, and packaging materials.

The hemp grain is a valuable food resource having the perfect balance of the omega fatty acids, 3, 6 and 9 along with the most digestible grown protein for healthy foods. Food processing industries can be created to make hemp food products ranging from pasta to salad dressing. The oil from the grain can be used in many industrial products from inks to lubrication to fuel. It can also be used in body care, cosmetics and health care products.

Jobs will be generated to develop and manufacture regional foods, fashions and as a magnet for tourism. Because farms can be so highly productive of hemp materials, high volume industries can be founded. Because hemp is so durable and versatile, with 25,000 known uses discovered and created throughout its thousands of years of history serving the needs of mankind, everything from cottage arts and crafts right through to the manufacture of car panels and even whole light-weight car bodies becomes possible.

Regional communities could even develop low-cost, light, electric and compressed air cars because no heavy smokestack industry is needed to fabricate hemp composites. In many cases hemp composite can replace steel and smokestack high investment industries with numerous environmentally-sound small business fabrication factories. The advent of 3D printing will hasten these local production capabilities.

These are the necessary elements of a vibrant regional community that develops wealth, social capital and happiness through creative endeavour. Local leaders will see their towns, regions and communities integrate socially, through training, education, economic growth and through a shared vision of success and achievement.

Look ahead just a few years: can you see the large tall green fields of hemp growing on local farms all around your region in the early summer? Throughout the summer it is being harvested and then processed with TCI's D8 decorticators. With these machines, value is created immediately after harvest because the fibre and hurd are separated in the machine close to the farm, similar to the sugar cane industry. The farmers are then able to supply fibre, hurd and grain into local businesses where value-adding continues in factories and mills and builders and bakeries. Many of the goods are sold and consumed locally. Global markets can be pursued, but in many cases will not be necessary. There will be sufficient demand locally to consume all the raw materials generated.

Within those few years, your town, region and community has become known for special products like electric cars, commercial vehicles, even train carriages made not of steel, but of special lightweight hemp composites. Your region produces innovative textiles of pure hemp, or of hemp blended with wool, cotton, or local sustainable fibres such as alpaca and possum fur. Technical and further education is expanded in the region to train and educate local young people to perform at higher levels within an integrated industrial matrix of profitable hemp-based industries. All this progress is based on the fact that a new, natural, recyclable, ecological fibre is being economically and sustainably produced during each summer harvest by the surrounding farms. In warmer climates, this harvest can occur two, even three, times each year!

The cost for starting this industry is a measure of vision, local planning and municipal support for enterprise. Hemp seed will be planted and grown well. The efficient, low–cost, high return-on-investment TCI D8 Decorticator puts the value-adding tool right in the hands of farmers so they can make and sell fibre, hurd and grain into the regional community for further economic activity and regional development.

This is a game worth playing: every region and country that wants to improve the lives of its citizens needs such a game!

Copyright
Adrian Francis K. Clarke, Managing Director 20 November 2013
Updated 11 August 2014 and 1 March 2016 by
Charles B. Kovess, CEO & International Marketing Director.