

## The granulation of waste materials and other materials with fine grains

Our partner a Hungarian company with an advanced technology for turning materials into hydrophobic oil (gas, metal, protein etc.) adsorbent powders or granules is looking for possible business partners interested in licensing or purchasing the technology/product.

### ABSTRACT:

The technology consists of an original industrial process by which raw materials can be turned into all-natural granules and powders with adjustable levels of absorbent quality, water resistance, push resistance, hardness, particle size, and density for a diverse set of uses, and can be combined in layers or mixes for more complex applications.

### THE TECHNOLOGY HAS THREE DIFFERENT AREAS OF USE:

#### **1. Granulation of fine grain desert sand into larger grain size sand and high strength gravel-like fraction sand for construction purposes**

Desert sand is fine grained, wind-devastated and it is unsuitable for construction purposes with the use of normal concrete formulas. Therefore, desert countries are mostly in need of sand imports in huge quantities and burdened with logistical costs to serve their dynamic construction industry. Thanks to our special granulation technology, it is now possible to alter the size and shape of desert sand, which also changes its physical behaviour. Tests shows that the granulated desert sand already works perfectly with the ratio of normal concrete mixes as a substitute for river sand and also in mixtures of traditional sand & granulated desert sand formulas as well. In these formulas granulated desert sand is the majority ingredient. The company is also capable of producing high compressive gravel equivalent to river gravel from desert sand.

There is currently no known competition in the market, the utilization of desert sand for construction purposes or, in fact, any significant economic processing / utilization of it has not been solved by any other technology. The only, somewhat competition is the imported sand, which is carried out by companies from remote countries. The ever-consuming stocks, however, make sand more expensive over time, making it even harder to obtain the required amount. The required volume is constantly increasing with the growth of human population on Earth. This often involves illegal sands purchases and poses a serious burden on local ecosystems, which is equally true for river sand and gravel mining.



The competitive advantage of technology is precisely this: with desert sand there is a less limited, cost-effective building material available in large quantities, with fewer environmental and social burdens. Adopters can eventually become owners of large (close to infinite) supply of construction grade sand and gain a strategic position in global economy.

## **2. Production of granules out of construction waste in order to replace natural gravel, pebbles or stone grit on construction sites**

The availability of gravel is not available in all regions, there are countries that require significant imports from this natural source material. The high level of world trade in gravel threatens many wildlife, often illegally, and has a great logistics cost while the resources are sunk. In contrast, construction debris is a persistent waste generated in almost every region and it is expensive to transport and store. Utilizing and converting this waste is a huge step towards circular economy, recycling and upcycling.

There are several technologies that can recycle sorted construction materials e.g. waste glass. In contrast the use and recycling of all the debris (mixed concrete, brick, mortar, plaster, etc.) is not solved, especially not as a static element with high strength and excellent properties in a construction material for new buildings.

The presented technology can produce high-strength gravel size or hydrophobic granules from debris and demolition waste. The application area is typically the construction industry. As an environmentally friendly, recyclable building material it is a perfect substitute for river gravel. During the granulation process, no artificial or synthetic, environmentally harmful or health-damaging materials are used. The production is space-saving, energy-saving, scalable, fully automated with minimal human resource requirements.

## **3. Granulation of raw materials, specialty materials on an industrial scale e.g.: Aerogel, activated carbon, etc.**

In the building industry, new materials are constantly being sought out. When a new material is discovered, sometimes the characteristics of the material are perfect for a specific use, but the form of the material makes it challenging for technical application. Converting these materials into granules or powders is a desired format for several technological solutions and pipe-lines.

This original industrial process can turn specialty raw materials in powdery format into different grain size powders or granules on an industrial scale. Adopters can



reach high levels of technological efficiency by using the optimal format of material, fine-tuned for their exact use case. This provides a competitive market advantage through an enhanced/extended product range, and expanded solution offering.

MAIN ADVANTAGES:

- Versatility: diverse, easily accessible raw materials, adaptable product properties, fine-tunable solutions
- Ecological: natural ingredients, low consumption, recycled materials, emission control, no harmful residue
- Multiple application fields in various industries
- Diverse models: On its own as technology, as part of production technology, ingredient/additive to materials, ready to use product range, etc.
- Fully automatized, scalable production technology
- Supporting technical tools, on-going R&D

POTENTIAL AREAS OF USE:

Construction industry (cement and concrete industry, road constructions, natural water resistant materials and layers, paints, insulation), environmental protection (recycling materials).

STAGE OF DEVELOPMENT:

Trial production, Working prototype

INTELLECTUAL PROPERTY STATUS:

Patent pending

TYPE OF COLLABORATION:

Exclusive license, Non Exclusive license, Assignment of right, Joint development, Product & production equipment sales

**If you are interested, please respond to:**

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