

We are looking for a new structure of feeling.
Pushing for a new order of sustainable action.
Incessant truth seekers, our raw state is our
rad state. Is freedom alienation from today's
insanity,
or the act of taking responsibility?
We chose the latter. Planted a small seed in
2015 and been en route for #LivableChange ever
since.

WRD

CONCEPT

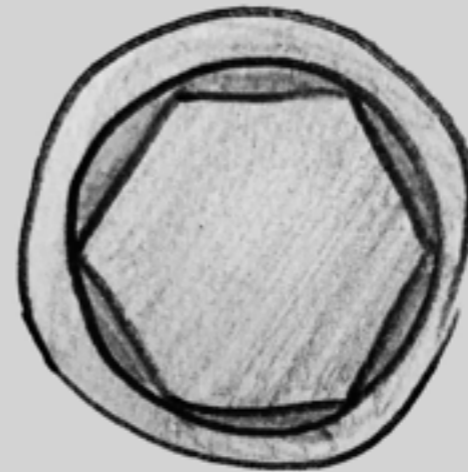
g_pwdr® is the first product worldwide to up-cycle wasted graphite powder in order to offer an innovative and sustainable alternative for fabric dyeing.

It's an innovation inspired by tradition: graphite is today wasted in vast quantities by the tech industry, but the Romans used to rely on it to dye their own fabrics thousands of years ago. Could this modern-day waste become then a raw material in a new, circular supply chain to offer the fashion industry an alternative to chemical dyes and tech companies an up-cycling solution to their by-products?

g_pwdr® was the answer to this question. A product which gives fabrics a shade of grey as unique as its manufacturing process and a particularly soft hand. Why? Because graphite happens to be a natural lubricant as well.

An innovation fully made in Italy which has granted the first product to rely on it the Best of the Best 2017 Award and the RedDot Design Award.

g_pwdr® is a product of Perpetua We Had To Invent It developed in synergy with WRÅD. Here the video inspiration behind GRAPHI-TEE™, the first product dyed with g_pwdr®: https://www.youtube.com/watch?v=3wS_73lbwsU.



graphite scraps
derived from manufacturing
graphite electrodes



graphite powder

WHAT IS g_pwdr®?

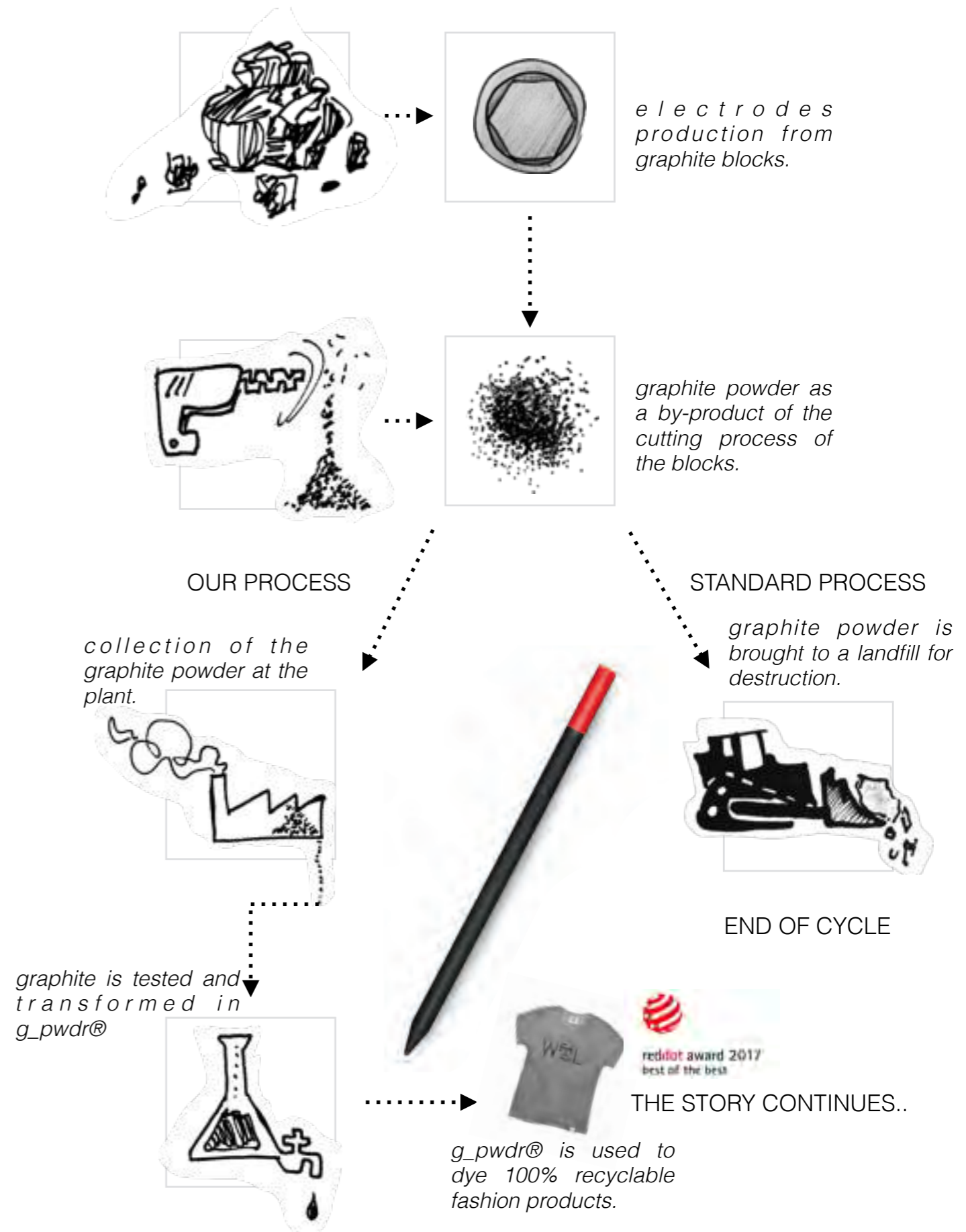
g_pwdr® is a water based solution composed of wasted graphite powder.

Graphite is a crystalline allotrope of carbon. It is non-toxic, odourless and tasteless. Tests conducted on g_pwdr® revealed the product contains no hazardous constituents following Directive 1999/45/EC and/or Regulation (EC) 1272/2008.

Furthermore g_pwdr® is not considered dangerous to human health and the environment following Directive 67/548/EC and / or Regulation (EC) 1272/2008.

Graphite powder, an inevitable by-product of the production process of electrodes by tech companies for to the aero-space industry, is collected before its dismissal in landfills and then converted into g_pwdr®.

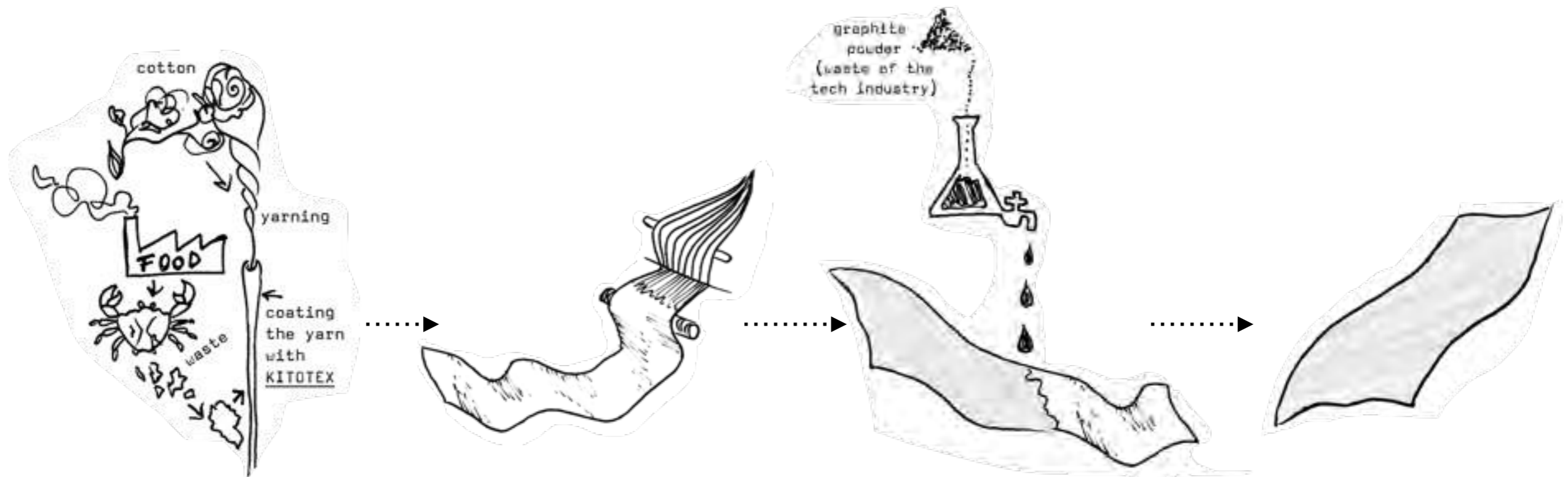
g_pwdr® can be used to dye and print all types of fabrics and fibres.



g_pwdr® technology

g_pwdr® technology (Patent Pending by Alisea srl) is an innovative process for denim dyeing derived from the combination of g_pwdr® with KITOTEX Save The Water by ItalDenim. It's simple, smart, scaleable, and highly beneficial from an environmental standpoint.

Here is how it works:



1) threads are sized with chitosan, a natural polymer extracted from the processing of food waste, which polymerises the fibres improving their mechanical strength;

2) chitosan-treated threads are weaved into denim fabric; the chitosan treatment improves the fabric capability to absorb pigments;

3) g_pwdr® is applied to dye the fabric without the need to add water or chemicals. The wasted graphite powder naturally bonds with the fabric giving it its staple shade of grey;

4) the fabric is left to dry. No intermediate rinsing or finishing process in between the dye and dry stage is needed as no toxic pigments or chemicals were used throughout the process.

g_pwdr® technology: benefits

	STANDARD	g_pwdr® Technology
WATER FOOTPRINT	<p>A significant amount of hot water is normally needed both in the dyeing and post-dyeing stage of the manufacturing process of denim, to set and rinse the fabric from residual chemicals and dangerous synthetic polymers like PVA.</p>	<p>Water consumption at the same stage is reduced by 99%. Our denim does not contain dangerous substances like PVA that need to be rinsed off and, being g_pwdr® a water based solution, no additional water is required.</p>
CHEMICAL FOOTPRINT	<p>Regular denim is dyed with synthetic chemical pigments, which can be toxic and hard to dispose of. Moreover threads are pre-treated with PVA, a synthetic polymer needed as a sizing agent to strengthen the mechanical performance of the fibres throughout the dyeing process.</p>	<p>The grey color here comes from a natural mineral, graphite, which is non-toxic for the environment or humans. Moreover ,substituting in functionality synthetic PVA fibres, here we have Chitosan, a natural polymer which enhances the performance an quality of the denim itself.</p>
CARBON FOOTPRINT	<p>The dyeing and finishing stage of denim can be very energy and resource consuming, with more than 5 production steps occurring in between the dyeing of the threads and end delivery of the fabric. These steps usually include sizing, fixing agents, bleaching, mercerising, sulphur dyes, washing and rinsing.</p>	<p>g_pwdr® technology eliminates completely the need to size threads with PVA, bleach, mercerise, dye threads with sulphur base pigments and rinse or wash. Thermal and electric energy consumption and CO2 emissions, as a result, are reduced by 90%.</p>
CIRCULAR ECONOMY	<p>Standard dyeing methods are based on the traditional linear model of supply: take raw materials, often cheap and dangerous to human / environmental health, make products designed for a short life-span, and waste.</p>	<p>g_pwdr® technology is based on circular dynamics as it upcycles a natural polymer derived from the processing of food waste and a natural mineral derived from industrial waste, bringing on the market a more durable and qualitative higher product.</p>



CONTACTS

Susanna Martucci: s.martucci@alisea.it

Matteo Ward: matteo@wradliving.com

Gigi Caccia: gigi@italdenim.it