

Management:

Alec Anderson BSc, Founder, CEO
Ex-Shell & Foseco, IP Inventor

Fiona Anderson, Founder, Director
Ex-Royal Mail, Change Leader

Paul Mitchell, Owner, Director

Board Advisors:

Chris Lee (UK)

Ex-Director BMW, Lead for New Mini

David Mitchell FCA (UK)

Ex-Director, BAE Systems

Dick Armocido (USA)

Ex-Director, Connell Co. USA

Kate Lowes (UK)

Ex-Head of Innovation, Inventya

IP:

Granted Patents & Trademarks
protect >70% of Global Rice Markets

R&D Investment to date:

Circa £5 million

Company Attributes:

- Transformative/Disruptive ultra-low power, low loss IP
- First mover advantage in £550 Billion global rice market
- Impact ESG investment
- SDG Goals Impacted: End Poverty, Zero Hunger, Health, Gender Equality, Decent Work, Innovation, Sustainable Consumption, Climate Action, Collaborative Partnership

Achievements:

- Delivered simpler, best in Class global rice milling solution, reducing food loss
- Horizon 2020 SME Inst. Phase 1 and Phase 2 Seal of Excellence
- UK lead in 13 partner, £1m UK/India Newton Fund project
- UK Industrial lead in 9 partner, £2m Sino-UK Newton Fund Digital Rice Milling project with project partner Siemens
- Partner in Rice Husk, Energy Catalyst project in Nigeria
- Runner-up: Larta Ag Innovation Showcase, St Louis, USA
- China: Alec Anderson is designated a Foreign Expert
- China: Alec Anderson 1000 People plan
- China: West Lake friendship
- Sales in UK, USA, and China
- Commercially Milled over 100,000 tonnes of rice
- China: GREAT British Product Award - beat McLaren
- Exemplar: Manufacturer TOP100
- Inaugural IP100 League (UK): top 10 for Patents, top 50 overall

Today, rice is an antiquated and wasteful global industry that feeds 3.5 billion people daily. By 2050 it will be 6 billion people, and rice production will need to increase by 70% to meet demand. Annually, 750 million tonnes of paddy (raw rice) is harvested. Each year 60 million tonnes are lost from Field to Fork, wasting food and the finite resources deployed pre-harvest. 180 million tonnes of what's left is damaged during processing, reducing its value.

Koolmill has pioneered a global solution to address this annual loss of circa \$127 billion

Why us? we believe that Koolmill technology will **change** the way the world is fed.

Vision: to transform an antiquated and wasteful global industry that feeds 3.5 billion daily, move it to a sustainable future and lift millions from food and fuel poverty.

How will we deliver? our unique Milling as a Service (MaaS) Business Model.

Novel, pay-as-you-mill business model makes the same high-performance, state of the art, cereal (rice) processing technology **affordable and accessible** to all millers regardless of gender, size, or location. For the first time, 200 million smallholder growers have options to transition from commodity producers to market leading, added value food processors.

What do we do? Koolmill has pioneered a **disruptive** cereal (rice) processing technology.

The offer is accessible, simpler, ultra-low power (5Wh/kg), data driven digital rice milling working towards, Net Zero Carbon and Zero Hunger. Koolmill improves profitability whilst reducing the environmental impact of rice globally. All current machines **do something mechanically to the rice**: Koolmill treats the rice as a fluid, we **do something gently with it**.

Impact: Regretfully, \$2.7 billion (90% by volume) of rice machinery that will be supplied by 2024 will be wasteful outdated machines withdrawn by large mills in the 1980's. Until now, 1.5 million SME mills have been excluded by cost, infrastructure, and capacity requirements, from accessing modern high-performance vertical milling solutions.

Koolmill's high-performance, off-grid, distributed milling solution disrupts the established rice value chain, creating and retaining value in local communities. An empowering and enabling, ultra-low power, low-loss milling process set to deliver measurable impact on GDP at a macro level, and improve millions of lives at a micro level. **In Asia, the paddy lost each year would feed 300 million people for a year. In Africa, it would be 1.2 billion people.**

Excellence: Koolmill IP is Patented Internationally and has received awards in the UK, USA, and China. Globally, Koolmill collaborates with strategic partners to create shared value. UK project partners include: the **National Centre for Excellence in Food Engineering** at Sheffield **Hallam** and **Aston** Universities (academic). **East End Foods plc** (milling), **KMF** (manufacturing), **Siemens** (technology). Indian partners include, **PAU**, **NABI** and **IIT Roorke** (Academic), **VMT** (manufacturing) and **Rajdhani Rice** (milling). Koolmill also collaborates with academic, manufacturing and commercial partners in China, Africa, and Turkey.

Delivery: A unique blend of experience, expertise, and capacity, focused to create and retain shared value in local communities. Equitably distributing that shared value between fewer stakeholders in a shortened, rebalanced value chain will rapidly build a profitable and truly global business delivering positive economic, social and environmental impact.

Status: Successfully piloted in the UK and India, the new Koolmill F1-Series machine is capable of cold milling brown basmati to finished in a single operation with zero net broken rice, at less than 5kWh per tonne milled and an effective capacity from 100kg to 900kg per machine per hour. At its simplest, a modern rice mill in a box, milling with less power and less loss/damage that can be appropriately sized to suit the actual capacity required for each individual miller without compromising or degrading milling performance.



Global Centre of
Excellence for
Cereal Processing



Goal 1. End poverty in all its forms everywhere

Access to Koolmill IP will increase incomes for SME Millers and Smallholder growers, creating shared value and high value rural employment in production and service roles. Koolmill is an empowering and enabling, added value Agritech Solution made accessible, available and affordable by a novel "pay as you mill" revenue sharing Business Model.



Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Koolmill delivers more food from existing harvests making better use of the finite natural resources deployed pre-harvest, improving food security by reducing food loss, and transitioning smallholders from commodity grower to market leading added value food producer contributing to Net Zero Carbon, Zero Loss and Zero Hunger.



Goal 3. Ensure healthy lives and promote well-being for all at all ages

Access to a viable and affordable modern, ultra-low power, high-performance processing technology will increase incomes, reducing poverty which facilitates better education, nutrition and health. Koolmill contributes to a virtuous circle of continuously improving health, wealth and well-being.



Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Increased incomes will provide tax revenue to better fund basic schooling and/or household income to pay for schooling where free schooling is not available.



Goal 5. Achieve gender equality and empower all women and girls

Women play a central role not only in agricultural production growing 80% of staple foods. They are often excluded from added-value post-harvest operations, Koolmill is an empowering gender neutral technology, enabling increased female economic participation in safer, low risk operating environments.



Goal 6. Ensure availability and sustainable management of water and sanitation for all

It takes 2,500 litres of water to grow 1 kg of paddy. Each year some 60 billion kg of paddy are lost post-harvest wasting the 150 trillion litres of water used to grow the paddy. Eliminating post-harvest losses in rice production will directly impact on water utilisation making better use of a scarce, valuable natural resource.



Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Rice husk offers a sustainable off-grid, zero-waste power source. Roughly, 2kg rice husk equals 1kWh or 150 million tonnes of rice husk per year potentially equals 75 Billion kWh of zero waste off-grid generation. Koolmill is working with partner PyroGenesys to convert rice husk and other agricultural residues to heat and power.



Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

In many developing countries employment growth will most likely be in agriculture and agri-tech. Koolmill offers the opportunity for localised, productive, high value, gender neutral, year round employment.



Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Koolmill is a disruptive, innovative technical Agritech solution, it is the embodiment of sustainable industrialisation moving an antiquated, wasteful global industry to a data driven, sustainable future. Flexible, simpler mills with the capability to process multiple cereal, pulses, seeds and



Goal 10. Reduce inequality within and among countries

Koolmill will disrupt, shorten and rebalance the established rice value chain, all smallholder farmers and SME millers regardless of gender, size or location now have equal access to modern, high-performance, state of the art milling technology.



Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Smart food for smart cities. Potentially, micro-milling coupled with micro generation to deliver power and food on demand at point of use, cutting food miles and grid losses dramatically and lifting millions from food and fuel poverty.



Goal 12. Ensure sustainable consumption and production patterns

Koolmill delivers more food, and at a higher quality, from existing harvests making best use of what is grown, improving Food Security with less wasted resources, less lost or damaged food: producing more by milling less. Milled the 60 million tonnes of paddy lost each year would feed 600 million people globally for a year.



Goal 13. Take urgent action to combat climate change and its impacts

Koolmill's ultra-low power consumption (5Wh/kg) coupled with the utilisation of agricultural waste, solar and other alternative power sources, will reduce the current dependence on hydrocarbon fuels, potentially contributing significantly meeting net zero carbon targets.



Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Fail: perhaps we can put a rice mill on a submarine?



Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Koolmill minimises Post-Harvest Loss increasing effective output, reducing the pressure for excessive use of chemical fertilizers, helping to improve local ecosystems by reducing pollution from runoff for example.



Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Domestic Resource Mobilisation funding access to disruptive, added value, agri-tech solutions will be the driver for inclusive societies, increased living standards and better government with increasing tax raising capabilities.



Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

Koolmill is seeking to establish strategic partnerships globally to deliver our exciting life changing technology. Creating inclusive economic activity, employment and shared value from the manufacture and use of Koolmill IP.