

# Open System Design

9 billion people...

Unfolding before our eyes is the fastest evolution our society has ever seen. It's uncertain, it's unprecedented, yet, known that we will all suffer the consequences of inaction.

Food security is the problem. Small scale farmers are the answer. But, for them to be the answer they must be equipped with the resources to more efficiently produce food and grow their operation.

It's not that efficient equipment doesn't exist; it's that it is completely out of reach to 80% of the world's farmers. Will the major multinationals ever be able to make money selling equipment to this segment? No. Will an individual philanthropy project focused on the design of one piece of equipment ever reach a scope that has tangible impact? No.

It's going to take a broad effort of global collaboration.

To include these farmers, we must democratize equipment in the same way that software has been democratized. For those that say it's impossible for most of these farmers to afford a tractor, think about this: In 1980 who would have thought that in 2017 84% of the developing world would have a cell phone?

To achieve these same results in the equipment industry the design process must be reinvented. Luckily, though, the framework of the technology industry proves a successful model for accessibility and rapid innovation.

*What the equipment industry looks like today*

Proprietary machines. Unique components for each machine. Complexity and obsolescence are key.

*Where we're headed*

In the Information Age, design can no longer be thought of as proprietary and secret. Any one design concept or component has the potential to benefit another. In fact, to achieve scale it *must* be designed with the intent of expanded application. However, that potential can only be realized within an open system where knowledge is accessible.

Open system means it's made available. Okay, but *what does that multi-use type of design look like?*

Each system (machine) design is made up of multiple blueprints. Each of these blueprints represents a different system, process or function. It is the connectivity of these individual blueprints that create a unique system that performs a specific task. Exchange some of the blueprints with other existing blueprints and you have a new task-specific system.

*But, why?*

By designing components to be made at scale, rather than unique machines to be made at scale, the following results are made possible:

1. Cost of entry into the market is lower; you don't have to be a multinational corporation to participate
2. Research and development dollars go further
3. Customers can troubleshoot, configure and adapt equipment as *they* deem necessary

*An example*

In designing Oggún, Cleber first designed a base power system to be used for a range of small-scale equipment beyond tractors. It's called the Universal Power Platform (UPP). Anyone can license this design and create the piece of equipment they need – a skid-steer, an excavator, a light truck and more.

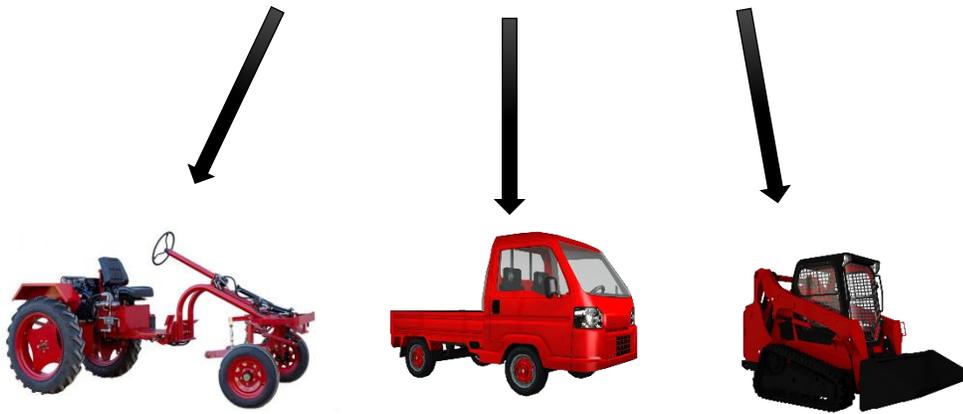
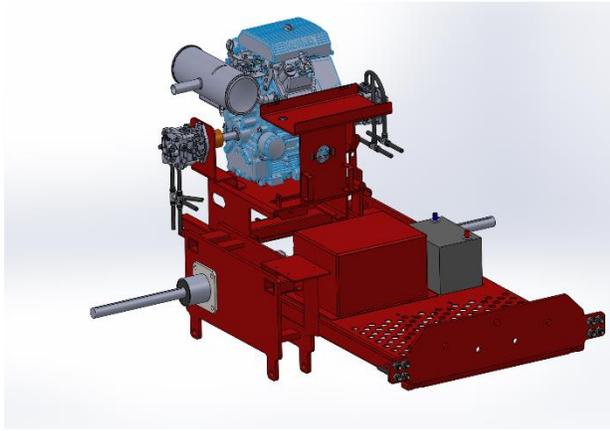


Image what could be achieved by ordinary people all over the world when they are given the foundation to innovate and ability to contribute to development. Implementing an architecture-based design is like handing people the key to a more prosperous future, just ask a computer programmer.



3400 County Rd. 10  
Paint Rock, AL 35764  
[www.thinkoggun.com](http://www.thinkoggun.com)  
[horace@cleberllc.com](mailto:horace@cleberllc.com)  
256-655-8792