



NIRDA
National Industrial
Research and Development
Agency



Examples of challenges

- ❖ Agriculture is the main economic activity in Rwanda with 70% of the population engaged in the sector, and around 72% of the working population. The agricultural sector accounts for 33% of the National GDP. One of the risks farmers have to deal with are fungal diseases, they are always still hidden to destroy harvest and making the lives of the farmers miserable.
 - Aflatoxins are a family of toxins produced by certain fungi that are found on agricultural crops such as maize(corn), peanuts and soybeans. Aflatoxin-producing fungi can contaminate crops at harvest, and during storage. The presence of these toxins have high consequences of causing liver cancer and stunting among children. Emerging Technology currently solve the complex, therefore we call upon the young innovative to come up with the smart devices or solutions to handle, store and inform this challenges and that early warn the presence of the toxins.
 - The smart device/sensor can be used in agriculture on weather, soil quality, moisture crops growth/health progress etc.... all connected to End-to-end farm management systems such on; (Monitoring of climate conditions, Greenhouse automation, Crop management, Cattle monitoring and management)

- ❖ Technology can be applied on health care, such as:
 - smart device/IoT (Internet of Things) product systems that can be developed to solve problems and improve the quality of lives to help doctors/patients to identify medical history, sensors detecting level of illness, tracking the real time of medical equipment and monitoring
 - Electronic device that can read type of assurance, use to input/choose what related illness, how the body feels and direct to whom available doctor/room number

- Or other technology on developing new drugs and treatments
 - Smart device together with Big Data Analytics that can support in controlling, monitor and advice decision maker on interventions to provide efficiently.
- ❖ Smart technology for energy to solve different existing challenges that appear on smart city/home, such as instantly turns on and off on lighting, smart device and energy storage with lower consumption and price and other smart devices can be used in energetic sector
 - ❖ The “one cow per one poor family” program, known as Girinka, has provided inspiration for the proposed effort in Rwanda. Rwandan culture has a special relationship to the cow. Despite its importance, very limited processing of cow products takes place in Rwanda. 80-90% of hides and skins are exported with limited processing and many products are discarded without further processing.

How can the country's vision be linked to the average farmer? The idea is to unlock the potential of the cow value chain through Girinka 2.0.

- ❖ Smart hardware for better traceability in the food and beverage industry

Considering the inability to accurately and fully -- all along the value chain -- track goods or transactions from end-to-end cause citizens to demand for more transparency, traceability and fair processes applied to products they consume. We are here calling for the community’s creativity to come up with innovative ways to check (and display) the proof of origin for procured products. In particular, solutions could prove, among other things, that food supply is safe, smallholder farmers have been fairly reattributed, farm or agricultural products are meeting compliance standards, EH&S (Environment, Health and Safety) and quality requirements.