

It may be interesting to look at some of specific characteristics of ET(s) and contextualize the same in Agriculture perspective.

Emerging Technology	Core Competence	Agriculture Relevance
Social	Crowd-sourcing, connect facelessly, connect impersonally, share views & thoughts, discussion forum, ...	<p>Social collaboration is among the new norms, reach is becoming most global and world is getting smaller. Bring stakeholders together for ideation, teams building, collaborations, fund-raising, feedback & evolution mechanism, ...</p> <p>Social provides 'true inclusion' opportunity to anyone and everyone into anything & everything, directly and/or thru' forums, connect thru' unconnected,</p> <p>Social is relatively easy to leverage and integrate.</p>
Mobility	Anytime Access from Anywhere, Anyhow, ... Everyone, incl less educated and irrespective of socio-economic factors, is quite Mobile-ready & Mobile-friendly.	<p>Mobility is the answer and proven technology for Nation like India, esp considering its socio-economic-geo-political blended with Education. Mobility is in midst of every new conversations, Transformation, Reforms and conceiving new solutions from inclusion, reach the un-reach, interactive & engage-able, ... perspective across sectors.</p> <p>With current user-base, usability, apps, applications, ... Mobility is simplest to reach end-beneficiary by any stakeholders in even simplest manner including NO LANGUAGE.</p> <p>Agriculture and Mobility are like 'made for each other' considering requirements & challenges of both.</p>
Predictive Analysis	Data is New Oil, Data is New Currency, Data is New Gold. Today's times are too much of Data, all over. Data is connected, unconnected, related, and unrelated. In modern days, the power of data is phenomenal and unprecedented in conceptualizing new business model, new markets, new products & services, ...	Agriculture needs comprehensive and disruptive transformational transformation for more than one reasons, and these reforms are extremely overdue for revival from three perspectives (a) maximise the yield through optimal exploitation of resources like soil, water, markets, agriculture equipment & machinery, ... (b) people to focus on Rural & Agriculture by creating compelling environment for people to stay in rural with growth potential and (c) innovation and research & development. All these three can be best achieved by collation, comprehension, interpretation, and application of data for NextGen Agriculture in NextGen India.

	<p>Data is monetized, certain businesses have come up with the power of data. The type & size of Data determines the power of it.</p> <p>The predictive analytics tools & technologies power the exploitation of varied data available allover and help organisations do wonders.</p>	<p>Industry tools & technology, right resources, SME (Subject Matter Experts), and modern day's innovators can create data-led new conversations & perspectives for a new Agriculture World.</p> <p>Policy makers, funding organisations, decision-makers, Academia, SME, Beneficiary, Industry, and other stakeholders needs to come a common platform comprehensively.</p>
<p>AI/ ML¹</p>	<p>Connecting the unconnected data & information, Chatbot, Natural Language Processing (NLP), power of thinking out of box through data, ability to continually self-learn, ...</p>	<p>AI/ ML is all about Data and Agriculture has massive data, possibly grossly unexplored. AI can be applied in various areas wrt. Soil health & productivity, Rain system, Irrigation & Water management, pesticide management, fertilizer, what combination of products to grow, how to maximise yield, Safety & Security of sectors like Fisheries, de-risk strategies to cope with natural disasters, ... are potential areas of focus.</p> <p>Drone-based artificial rain, multi-purpose autonomous tractors, Agricultural Robots, ... are among the potential multi-purpose solutions.</p> <p>Machine-Learning algorithms has the capability to continually self-learn from new data, pattern, behavior, trends, ... they are exposed to and make predictions.</p> <p>AI/ML are among the best and most desired ETs to achieve innovative, disruptive, yet real desired results. Many times, the outcome of AI/ML may provide a new & altogether different dimension & direction to think & act.</p>
<p>Cloud</p>	<p>Entire ICT Infrastructure, Platform, Productivity tools, and even Applications are/can be available on Cloud, and be utilized on monthly consumption basis. No need to make upfront investments, No Capex.</p>	<p>So diverse data, so much of data, so much of data processing, so much of number crunching & data usage, so many stakeholders with multiple roleplays, and ...</p> <p>Functional-Technical-Non_Functional requirements across ICT (Information Technology, Communication, Telecom) stack require evolving diverse architecture. Integration and Interoperability among the key ones.</p> <p>Research and Innovation data requirements are really massive.</p> <p>Cloud do offer various SLA-based services and solutions per user's requirements.</p> <p>In today's World, Cloud is the answer for any & every requirements of ICT; esp when sector and requirements are so diverse and wide-spread.</p>

IoT (Internet of Things), Bigdata	Sensor Data	<p>IoT is primarily about Sensors and Blockchain is 5 V(s): Variety, Velocity, Volume, Veracity, driving Value.</p> <p>AI can be applied in various areas wrt. Soil health & productivity, Rain system, Irrigation & Water management, pesticide management, fertilizer, what combination of products to grow, how to maximise yield, Safety & Security of sectors like Fisheries, de-risk strategies to cope with natural disasters, ... are potential areas of focus.</p>
Blockchain	Decentralized technology, enhanced security, Immutability, distributed ledger, ...	<p>Agriculture data is expected to be widely spread among connected & unconnected users. Agriculture data, sensitive in nature as many crucial & sensitive research, innovation, and business use case would need to access & contribute.</p> <p>Centralised database concept is just not possible for many reasons. Decentralised data with selectively available for sharing would need data to be non-temper(able), i.e. high level of security and traceability.</p> <p>Some of the very characteristics of Blockchain are natural requirements of Agriculture.</p> <p>https://www.frontiersin.org/articles/10.3389/fbloc.2020.00007/full</p>
AR/ VR/ MR²	AR is Digital Live World. VR takes user into real-world simulation and imagined environments. MR is ideal combo of real-world and digital objects interact.	<p>Agriculture and AR/VR/MR looks best fit use cases, as if made for each other.</p> <p>https://farmvr.com/ https://robohub.org/how-ar-technology-can-help-farmers-stay-relevant/</p>

¹ AI/ML: Artificial Intelligence/ Machine Learning

² AR/VR/ MR: Augmented Reality/ Virtual Reality/ Mixed Reality