

**Cloud Solutions for the Agricultural Domain
Executive Summary**

Agricultural and allied industries play a vital role in the progress of a nation’s sustainable economic growth. Farmers play a vital role in this progress. Their hard work and efforts need to be praised and possibly empower them with various tools and digital assets that can automate some of their various repetitive mundane tasks such as back office operations, crop monitoring, and post-harvesting routines.

We, at Bhadale IT Pvt. Ltd, have developed various products and services that are revolutionary and can offer effective solutions with our industrial partnerships with digital technology leaders like Intel® and Microsoft®. We have drafted this solution brief to illustrate our products and service offerings for the **agricultural industry**. We can tailor make highly customized solutions to meet individual project and farmer needs that can include use of various technologies like artificial intelligence, and data science that can assist in precise farming techniques and use of technology in improving production, improvised use of resources, and reduced crop loss.

The focus of this solution is for farmers to adopt and migrate to Intel® based digital cloud platform - Microsoft Azure® that can boost quality and quantity of crop production and improve their supply chain and offer faster and mature downstream business operations.

Solution brief

We offer products and services at program and project level to farmers, communities and related real-estates for their inventory and post-harvesting management. At program level we offer our clients in planning and prospectus of the use of digital cloud technologies. For farm owners and estate managers we offer solutions based on products backed by Intel® and Microsoft®. We have in-house products that can be used to tailor individual needs and meet industrial compliances for auditing and need of records.

Intel® powered cloud products like Intel® Xeon® processors, software libraries are used to drive the Microsoft Azure® cloud platform hosted either as an in-house instance or at a cloud data center. Standard cloud models like IaaS, PaaS and SaaS can be opted based on the client’s IT needs.

Figure 1 shows the high level solution we offer along with Intel® and Microsoft Azure® technologies.

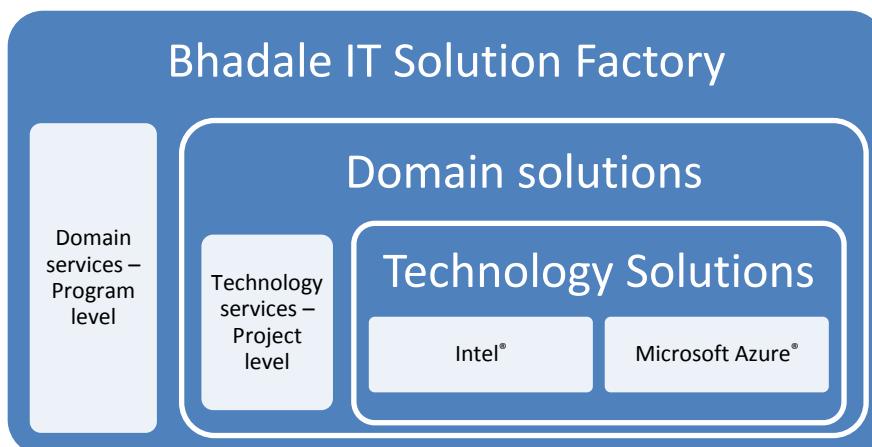


Figure 1: Hi Level Solution

Cloud Solutions for the Agricultural Domain

At the program level we offer domain specific services like, gathering business objectives, stakeholder requirements, domain needs, local laws to comply, quality needs, and proposed outcomes of the program. At the project level we offer clients with development of project charter, breakdown of program objectives to functional, non-functional, technical and non-technical and the delivery of tangible and non-tangible assets as per the program objectives.

For better solutions management, we offer turnkey repository called as, **Bhadale IT Solutions Factory** that hosts all the enterprise assets, solutions, documents, training material and various code artifacts and IT assets. Broadly these are classified as Domain and Technology designs as shown in Figure 1.

Clients can obtain the first level of the solution using our web portal as shown in Figure 2. After visiting our portal and picking the right solution or a known offer, clients can contact us for further details along with a note for a RFI or a RFQ.

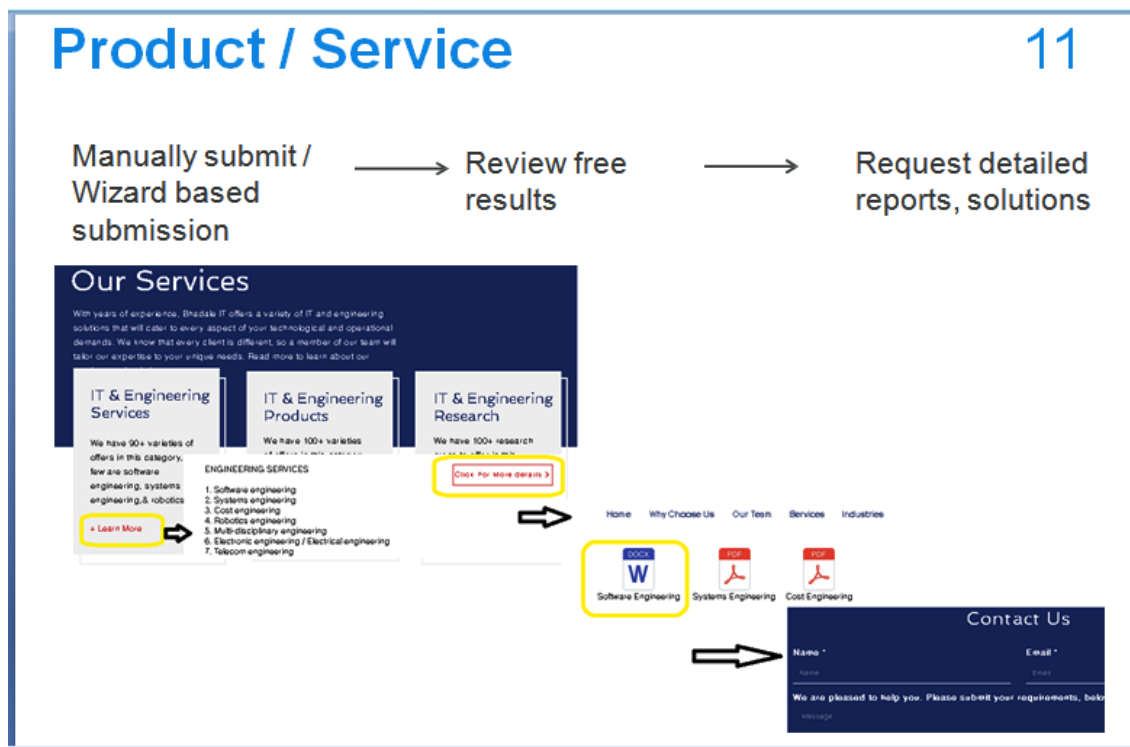


Figure 2: Products and Services

Domain Solutions

Our domain solutions include agricultural domain based products and services. We have a base domain related product framework that can be customized to individual needs. Our domain products (as shown in Table 1) are prototypes and can be customized as per needs.

Agricultural Domain Products

Product No	Product Name	Key Product features
1	Farmer's Climate aid	Use of weather patterns to forecast weather for farmers. We use Intel AI technologies along with Microsoft Azure ML for accurate forecasting . This offers farmers with intelligence for better seed sowing, pesticide control, fertilizer management and avoiding various climatic change related risks and damages.
2	Precision agriculture /satellite farming aids	Precision agriculture (PA), satellite farming or site specific crop management (SSCM) is a farming management concept based on observing, measuring and responding to inter and intra-field variability in crops. The goal of precision agriculture research is to define a decision support system (DSS) for whole farm management. We use relevant datasets and live streams to offer precise results computed on Intel computing hardware.
3	Smart energy	<p>We offer partner based energy harvesting systems, and recommend storage, distribution to various downstream activities managed by a mini-data center.</p> <p>We offer our expertise in setting up Intel based mini-datacenter, mini control stations, mini energy storage and distribution stations for storage of electrical energy generated from agricultural side products (like ethanol, bio-gas etc), that allow for short and medium term energy supplies for farm needs like green house lighting, maintaining temperatures, and monitoring supplies.</p>

Table 1: Agricultural Domain Products

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Agricultural Domain Services

Service No	Service Name	Key Service features
1	Computer Education	Use of digital education to empower farmers to become computer literates and harness digital technologies
2	Hi tech farming services	Is a farming management concept based on usability of hi tech tools like robots and exoskeletons to aid non-privileged farmers
3	Products Knowledge sharing	With farmers for Digital records of agriculture , farming, tools, reusable resources, reading satellite images, geo maps, and many more products

Table 2: Agricultural Domain Services

Technology Solutions

Agricultural Technology products

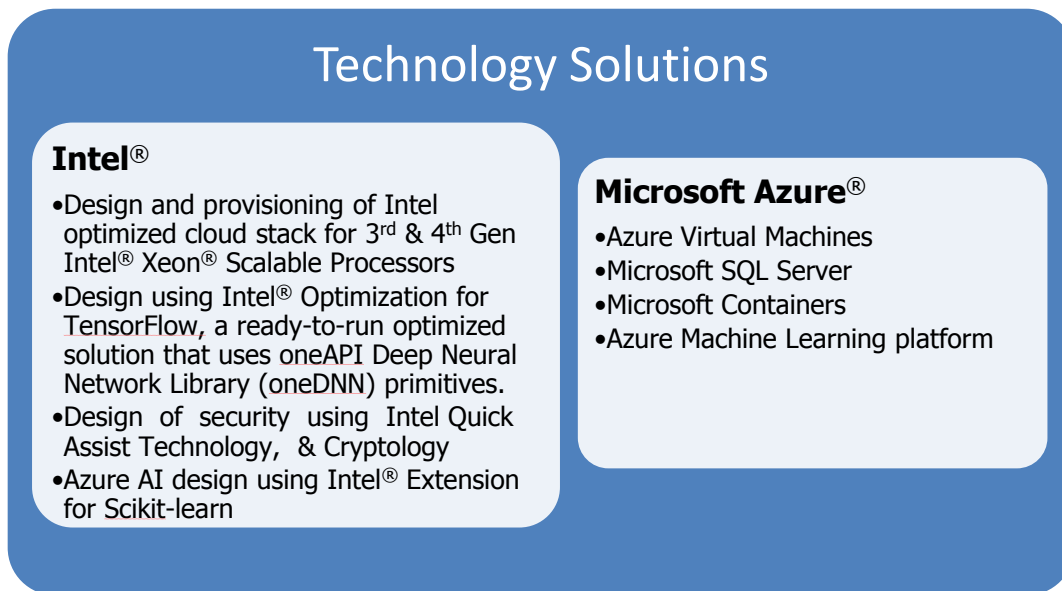


Figure 3: Technology Solutions

Cloud Solutions for the Agricultural Domain Agricultural Technology services

- Planning and Design of project implementation
- Implementation best practice from Intel® and Microsoft Azure®
- Configuration of cloud inventory, cloud optimization libraries

Summary

In summary, we at Bhadale IT offer Intel® and Microsoft Azure® based cloud solutions. We offer various related services like organizing local knowledge sharing workshops, meetings, digital planning, developing cloud adoption roadmaps, scoping your requirements, business and technical design, implementation, operations and various other related project services.

Abbreviations

1. IaaS - Infrastructure as a Service – a cloud model
2. PaaS – Platform as a Service – a cloud model
3. SaaS – Software as a Service – a cloud model
4. RFI – Request for Information
5. RFQ - Request for Quote

Next steps

To get started please visit: <https://www.bhadaleit.com>

For further details contact: vijaymohire@bhadaleit.com

For Intel® Partner Solution Markestore:

<https://www.intel.com/content/www/us/en/partner/showcase/storefront/a5S3b000000BAvZEAW/bhadale-it.html>

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