

Meghalaya Enterprise Architecture for Government of Meghalaya

MeghEA Vision and Scope

Planning Department,
Government of Meghalaya

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List of Abbreviations

Abbreviation	Expansion
ACS	Additional Chief Secretary
AIDS	Acquired Immune Deficiency Syndrome
ARB	Architecture Review Board
API	Application Program Interface
AS	Additional Secretary
ATM	Automated Teller Machine
BCG	Bacille Calmette Guerin
BPR	Business Process Reengineering
CEO	Chief Executive Officer
CM	Chief Minister
CRUD	Create, Read, Update and Delete
CS	Chief Secretary
CSC	Common Service Center
DIPP	Department of Industrial Policy & Promotion, Government of India
DL	Decilitre
DoNER	Ministry of Development of North Eastern Region
DSS	Digital Service Standard
EA	Enterprise Architecture
EAP	Externally Aided Projects
EoDB	Ease of Doing Business
EVS	Environmental Science
FRU	First Referral Unit
g	Grams
GAD	General Administration Department
GDP	Gross Domestic Product
GSDP	Gross State Domestic Product
GIS	Geographic Information System
GoI	Government of India
GoM	Government of Meghalaya
H&FW	Health & Family Welfare
Ha	Hectare
HRD	Human Resource Development
ICT	Information and Communications Technology
ID	Identification
IMR	Infant Mortality Rate
IndEA	India Enterprise Architecture

Abbreviation	Expansion
IT	Information Technology
IT&C	Information Technology & Communications
IVR	Interactive Voice Response
KM	Kilometers
KPI	Key Performance Indicator
MACT	Motor Accidents Claims Tribunal
MBOSE	Meghalaya Board of School Education
MCH&FW	Maternal Child Health and Family Welfare
MeghEA	Meghalaya Enterprise Architecture
MeitY	Ministry of Electronics and Information Technology
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MI	Medical Institutions
MIC	Minister In-charge
MMR	Maternal Mortality Rate
MVA	Minimum Viable Architecture
MW	Mega Watts
NDPS	Narcotic Drugs and Psychotropic Substances
NeGD	National eGovernance Division
NeGP	National eGovernance Plan
NIC	National Informatics Centre
ODF	Open Defecation Free
PHED	Public Health Engineering Department
PM	Prime Minister
PMAY	Pradhan Mantri Awas Yojana
POCSO	Protection of Children from Sexual Offences
SCSTE	State Council of Science Technology & Environment
SDG	Sustainable Development Goals
SIO	State Information Officer
TB	Tuberculosis
WoG	Whole-of-Government

1. Executive Summary

The State of Meghalaya envisions accelerating growth and having better living conditions for its people. The State has been cognizant of people's aspirations and has set a vision for the state to be a "**High Income State**" by 2030 and to be in the **Top ten states in India in terms of GSDP**.

The State has taken substantial strides in deriving a Growth Agenda to help realize the vision. The agenda revolves on six focused pillars viz. **Human Development, Infrastructure, Primary Sector and Entrepreneurship**; with the cross-cutting pillars of **Governance and Environment**. In order to operationalize this agenda, the state has envisaged the below actions:

1. It has identified key priorities under the six pillars
2. Each of these priorities are mapped to the specific services delivered by the departments
3. Further, for each pillars applicable SDGs are identified with targets, indicators and department(s) to monitor and implement the same.

While doing the above, Meghalaya has adopted the Sustainable Development Goal 2030 (SDG 2030) as the guiding framework and has customized SDGs in accordance with local challenges, capacities and resources available to attain the goals. While the overall targets for 2030 are identified, it is advisable to include interim targets as well for each of the goals. This would enable the departments to have their achievements assessed periodically have any course corrections as well.

Achieving the SDG goals is directly related to the services provided by the departments. Therefore, the success of the State growth strategy is fully dependent on how well equipped the departments are to achieve its service delivery mechanism.

The State intends to deliver all services to its stakeholders with a uniform and unified experience, enhance service delivery efficiency, improve the effectiveness of services, enhance employee productivity and ensure data security and information privacy. It requires the State to streamline its internal processes, enable data-driven decision making and have a robust mechanism of service delivery aligned to the local needs.

The government is also aware of the fact that it needs to leverage technology for efficient implementation and effective monitoring in order to transform the State of Meghalaya in a short span. Taking due cognizance of this fact, the government has envisioned to have a Digitally enabled governance in the state. With this objective in mind, the **State has decided to adopt State Wide Enterprise Architecture framework to digitally enable the governance** of the state.

Enterprise Architecture is a blueprint for the Digital Governance enablement for the State. The Meghalaya Enterprise Architecture (MeghEA) would be based on the IndEA framework (which has been notified as the standard e-governance framework by the Government of India). National e-Governance Division has been entrusted with the mandate to drive the India Enterprise Architecture (IndEA) framework adoption across Government Ministries, States and other Agencies.

Meghalaya is selected as the first state under the IndEA programme for the preparation of State-Wide Enterprise Architecture, planning department, Government of Meghalaya is the nodal department for implementation supported by NIC Meghalaya. The state has proposed to do the pilot implementation for the Finance Department. In addition to the Finance Department, other revenue generation and collection departments such as Mining, ERTS, Forest and Transport would also be integrated with the pilot for the Finance Department.

In this context, it may be emphasized that **MeghEA is only an enabler** to connect all departments

seamlessly on a Digital platform. The **key benefits of the MeghEA** would be - **it enables better service delivery, proactive policy enablement and informed decision making by enabling the transparency, efficiency and effectiveness of governance through provisioning of data and information at the disposal of the administration.** It shall not replace the basic services that need to be provided to the citizens; say for e.g. a digital solution for Food and Civil Supplies would enable the department to identify the right beneficiary and also track and monitor the movement of information and ration flow, however provisioning of ration item to the beneficiary at his disposal would have to be enabled through appropriate logistics primarily by the department. In order to enable the Government of Meghalaya to realize its quick wins, a **Minimum Viable Architecture is envisioned in the beginning and to scale up over a period of time towards a Whole of Government Architecture.** EA is a living document and is an ongoing process, and this would have continuous updates based on the governance reforms, policy change, technology upgradation and other environmental issues. As such, the MeghEA would mature over a period on the basis of adoption by the State and adaption to the environmental changes

As a part of developing the MeghEA blueprint, a vision, mission and foundational capabilities for the Enterprise architecture programme has been developed. This was required to have a focus on the scope and also bring the alignment with the overall Growth Vision for the state. This would also help to communicate a uniform message to all stakeholders about the project goals and how would MeghEA achieve the respective department goals. The Vision was developed through the below processes:

- Consultation with Senior Stakeholders of the Government of Meghalaya
- Data collection from departments using NIC Meghalaya EA portal
- IndEA guidelines and inputs from National e-Governance Division
- Review and feedbacks from MeghEA project coordination committee, steering committee and leadership committee
- Study and align the MeghEA vision to the overall State Vision

The MeghEA vision is stated below:

MeghEA Vision
Making “Meghalaya The Digital Abode”
Connecting, Collaborating and Empowering
Citizens, Business and Employees with empathy

The MeghEA vision comprises of three Missions i.e.

- **Connect** (Connecting citizens, business and communities to the digital governance ecosystem)
- **Collaborate** (Making government units cohesively work towards delivering value as One Government)
- **Empower** (Through Digital Literacy and awareness - Provide proactive information to make citizens aware of their benefits. Informed policy and decision making by the administration, provide a citizen consent framework)

The details of the MeghEA vision, mission and foundational capabilities are provided in the section 3 of this document.

MeghEA would strive to transform service delivery and streamline the internal process of the

government. Implementation of MeghEA would enable citizens to connect government and to avail services 'anytime- anywhere' in the least possible timeframe. MeghEA would also focus on transforming the government internal process, eliminating redundant activities and making units cohesively work towards delivering value. MeghEA implementation would factor in hurdles such as resistance to change, coordination gaps among stakeholders and other local challenges.

The forthcoming phase is to assess the existing services, systems, data and IT infrastructure of priority departments. The priority departments are identified based on the 80:20 principle wherein 80% of the services are delivered by around 20% of the departments. In addition, the Minimum Viable Architecture(MVA) principle is also adopted. Once the MVA is adopted, a roadmap will be developed that will detail out service implementation plan on the basis of service prioritization.

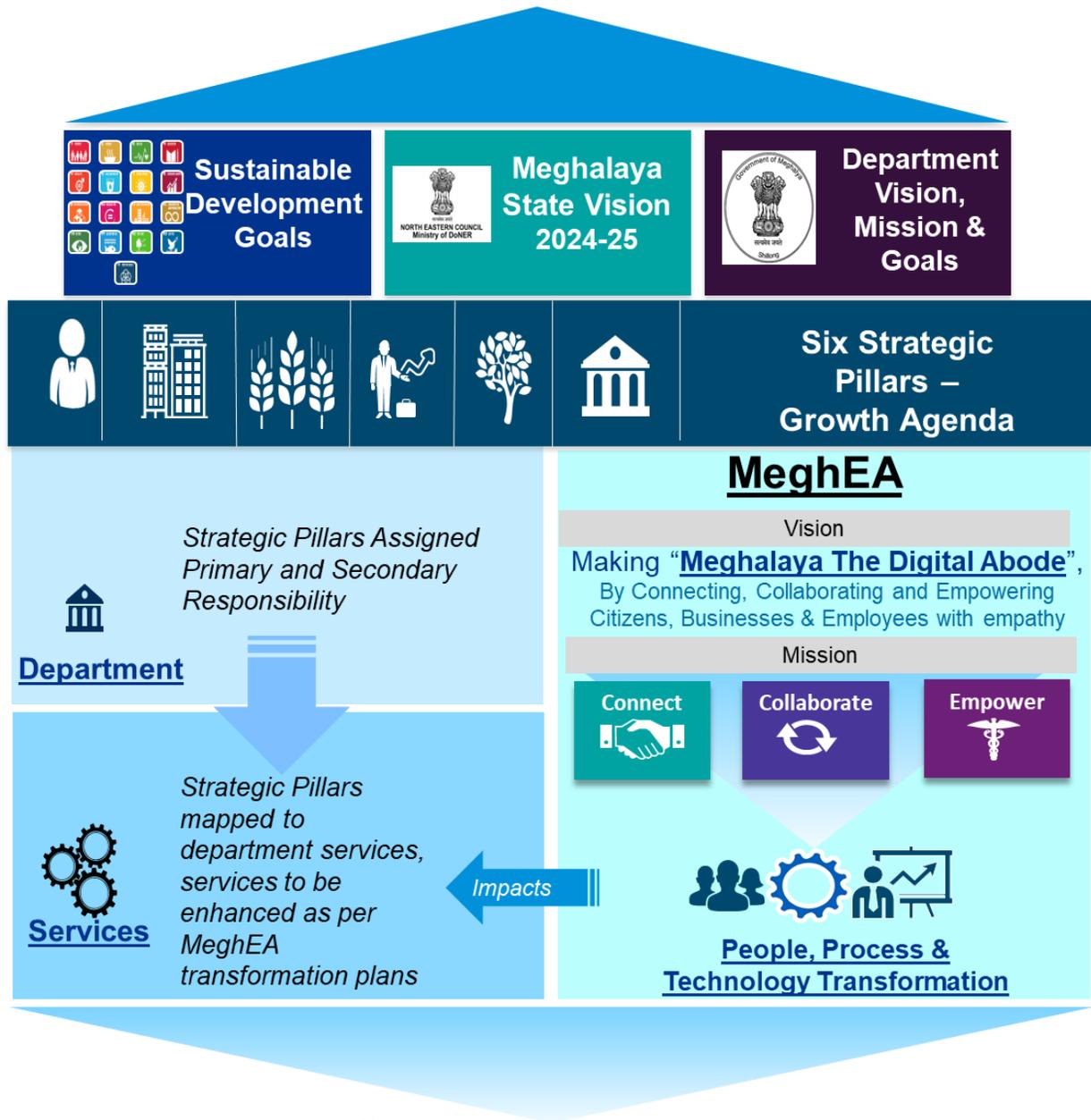
The assessment phase would include future state representation with activities such as process re-engineering assessment of key government services, IT systems modernization plan and data governance strategy. MeghEA team would also require key interventions from the government with respect to internet connectivity, Aadhaar penetration and higher digital literacy. All these would be achieved with the support from all stakeholders from the Government of Meghalaya and NIC, Meghalaya.

This document is further organized on the below chapters

- Chapter 2 - The growth agenda for the state of Meghalaya
- Chapter 3 - Government of Meghalaya transformation framework consisting of MeghEA Vision, Mission and Foundational Capabilities
- Chapter 4 - Consist of high-level architecture to realize the vision
- Chapter 5 - The services aligned to the strategic pillars
- Chapter 6 - The scope and plan for MeghEA programme
- Chapter 7 - Provide the Way Forward for the programme

The following illustration is a brief about the vision, mission of MeghEA and how it would facilitate the implementation of the state strategy:

High Income State by 2030

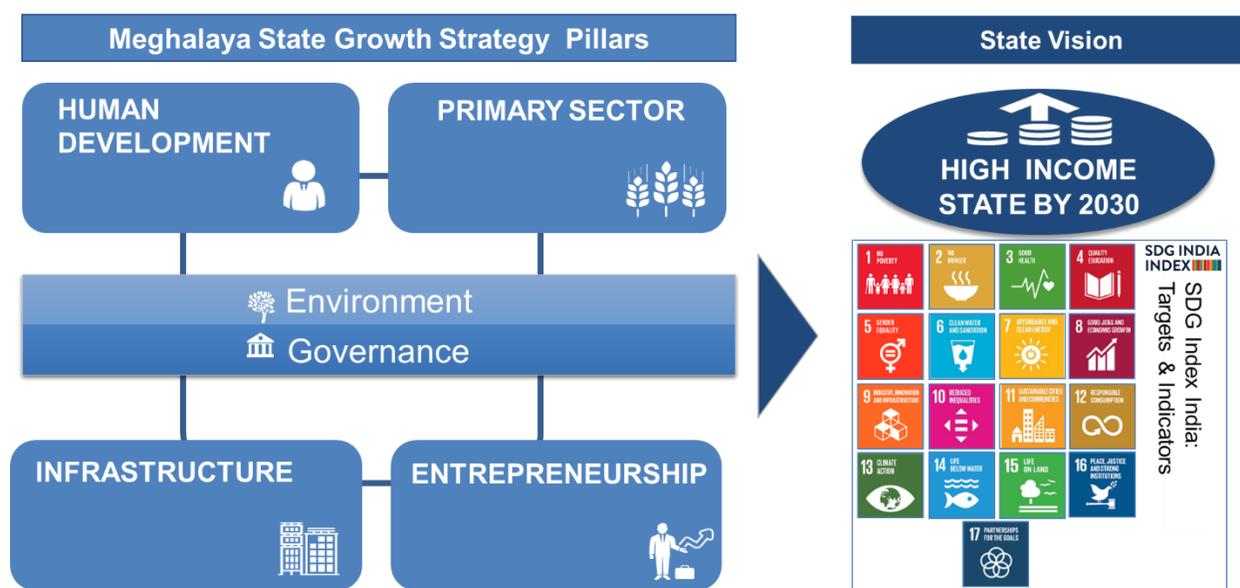


Indicators to be achieved for each strategic pillars based on quantified values

Indicators

2. Growth Agenda of the State of Meghalaya

The State Government has identified various priorities as a part of the Meghalaya Vision Document (2020-21 to 2024-25). The SDGs covers a range of interconnected sustainable development issues and provides a broad framework for defining measurable targets for attaining the goals. India as a member country of the United Nations and signatory to the UN Sustainable Development Summit in September 2015, has also adopted the Sustainable Development Goal 2030 (SDG 2030) as the guiding framework for its National Development Agenda 2030. In accordance with local challenges, capacities and resources available, the State of Meghalaya has adopted the customized SDGs and has developed a plan for attaining the goals. The state’s growth agenda is provided below which is based on the four strategic pillars – Human development, Primary Sector, Infrastructure and Entrepreneurship with cross-cutting pillars – Environment and Governance.



The ultimate vision is to make Meghalaya “HIGH INCOME STATE BY 2030”

2.1 The Strategic Pillars aligned with the Growth Agenda

In order to arrive at quantifiable goals aligned to SDGs, key SDGs applicable to each strategic pillar were identified:

	Aligned Departments	Sustainable Development Goals
<p>1</p>  <p>Human Development</p>	<ul style="list-style-type: none"> • Education • Information Technology & Communication • Information & Public Relation • Forests & Environment • Labour • Home (Police) • Public Health Engineering • Food Civil Supplies & Consumer Affairs • Social Welfare • Health & Family Welfare • Community & Rural Development • Commerce & Industries • Transport • Planning 	
<p>2</p>  <p>Infrastructure Development</p>	<ul style="list-style-type: none"> • Public Health Engineering • Information Technology & Communication • Commerce & Industries • Water Resources • Power • Public Works • Transport 	
<p>3</p>  <p>Primary Sector Development</p>	<ul style="list-style-type: none"> • Animal Husbandry & Veterinary Fisheries • Agriculture and Farmers' Welfare • Food Civil Supplies & Consumer Affairs 	
<p>4</p>  <p>Entrepreneurship Development</p>	<ul style="list-style-type: none"> • Community & Rural Development • Commerce & Industries • Agriculture and Farmers' Welfare • Labour • Tourism 	
<p>5</p>  <p>Environment</p>	<ul style="list-style-type: none"> • Revenue & Disaster Management Affairs • Tourism • Forests & Environment • Housing • Water Resources • Public Health Engineering • Food Civil Supplies & Consumer Affairs • Urban Affairs • Community & Rural Development • Commerce & Industries • Mining • Planning 	
<p>6</p>  <p>Governance</p>	<ul style="list-style-type: none"> • Planning • Information Technology & Communication • Health & Family Welfare • Law • Finance • Commerce & Industries • Home (Police) • General Administration • Home (Jails) • Cooperation Department 	

Further, pillar-wise applicable SDGs, targets, indicators and department(s) responsible for attaining various indicators have been detailed out.

2.1.1 Human Development

The Government of Meghalaya is committed to its people and their development. This strategic pillar focuses on Human Development through various schemes, programs and services in the following sectors:

- Education
- Skill Development
- Health
- Social Awareness & Inequality

Education and Skilling: The government aims to achieve free, equitable and quality primary and secondary education to all the residents of Meghalaya as it believes education is the foundation of a progressive society. Any human development actions must focus on education to achieve a holistic development of society. Meghalaya suffers from high drop-out rates at the secondary level where it is almost 48%, while drop-out rates in primary stand at 5%. There is a limited number of higher education institutes and polytechnic institutes in the state. Meghalaya enjoys a high degree of English proficiency among its residents, which puts the people of Meghalaya at an advantage for global jobs.

The government is planning to use Anganwadi Centers to enroll 10% of children in pre-school. Through its robust education policy, the government plans to make Shillong a 'Knowledge City' and the state an 'Education Hub'. The government is focused on developing the bottom 30 institution of the state. The State Government is keen to ensure equitable access from primary to tertiary, technical and vocational education and training (TVET) and promote lifelong learning. The goals are also to build research capacity and promote quality research in Higher Education Institutions right from the degree level to promote innovation. The government has taken a planned approach towards the development of teacher's skills through the Directorate of Education Research and Training.

Government of Meghalaya in its endeavor looks to set up ICT enabled classrooms that would be further progressed to smart classrooms. The department is planning to enhance the training of teachers and manage the information on the teacher's skills and details using modern technology. MeghEA would look to facilitate the objectives through effective planning and development of digital systems that would cater to the business need of the department. Student's and teacher's information management using digital systems would enhance and transform the education sector in Meghalaya.

Education

S.No	Key indicators	Primary Responsible Department
1	Correct responses on Learning Outcomes in Language, Mathematics and EVS for Class 5 students	Education
2	Dropout Rate at all level	Education
3	Participation rate at Board Examinations & Pass Percentage	Education
4	Percentage correct responses on Learning Outcomes in Early Childhood Care, Education & Development institutes	Education
5	Literacy Rate Improvement for Meghalaya	Education
6	Percentage of Children aged 3-6 years enrolled for non-formal preschool education in Anganwadi Centers.	Education
7	Percentage of population having primary schooling facilities within 2 kms of reach and secondary schooling facilities within 5 kms of reach	Education
8	Improvement in Gross Enrolment in the State of Meghalaya	Education
9	Ratio of male to female students at various levels of education	Education
10	Correct responses on Learning Outcomes in Language, Mathematics, Science and Social Science for Class 8 students	Education
11	Percentage of primary and secondary schools with single-sex sanitation facilities	Education
12	Percentage of school teachers professionally qualified	Education

S.No	Key indicators	Primary Responsible Department
13	Amount of scholarship expenditure per student eligible under all scholarship schemes	Education
14	Percentage of elementary and secondary schools with Pupil-Teacher Ratio less than/equal to 30	Education
15	Students male to female ratio in various levels of education	Education
16	Adjusted Net Enrolment Ratio at Elementary (Class 1-8) and Secondary (Class 9-10) school	Education
17	Children in the age group of 6-13 who are out of school	Education
18	Average Annual Drop-out rate at secondary level	Education
19	Number of Anganwadi Buildings for non-formal preschool education.	Social Welfare

Skilling

S.No	Key indicators	Primary Responsible Department
1	Percentage share of expenditure in Industrial Research & Development to total GDP	Commerce & Industries
2	Number of regional centers of excellence in each District	Commerce & Industries
3	Researchers (in full-time equivalent) per 10,000 inhabitants	Commerce & Industries
4	Share of GVA (Gross Value Add) of research and development related activities in total GVA	Commerce & Industries
5	Share of GVA of Information and Computer related activities in total GVA of state	Commerce & Industries
6	Nos. of Police personnel trained	Home (Police)
7	No. of Police training units/centers.	Home (Police)
8	Percentage growth of GSDP due to skill	Labour
9	Average income (Salaried, self-employed, Skilled, unskilled)	Labour
10	Average unemployment rate per 1000 persons for males and females	Labour
11	Wages earned by male-female in regular / casual employment	Labour
12	Number of youths trained in on-demand skills in the last year	Labour
13	Number of youths trained and empowered for sustainable employment	Labour
14	Ratio of Female Labour force participation to male Labour force participation rate	Labour
15	Total employment in tourism sector	Labour
16	No. of ITI per 10,000 of population	Labour
17	Number of science and/or technology cooperation agreements and programs between departments and international agencies/ institutes/etc.	Planning
18	Number of employed persons with disabilities in public services	Social Welfare

S.No	Key indicators	Primary Responsible Department
19	Number of trained Anganwadi Workers for preschool education.	Social Welfare

Health: Human development is always hinged on the development of healthcare facilities for any government. Governments are committed to the development of healthcare facilities to help people enjoy a level of health that enables them to lead a socially and economically productive life. Meghalaya's infant mortality rate is 39 compared to a national average of 34, it has 9 functional hospitals while functional primary healthcare facilities go up to 108.

The government recognizes a need to improve institutional delivery and enhance basic health infrastructure, especially in remote hilly regions. Healthcare services suffer due to the unavailability of trained doctors and nurses in remote areas. The government is considering increasing integrated coverage and increase mobilization with the participation of various field workers. The government is planning to increase the number of ambulances purchased and efficiently manage equipment

MeghEA is directed to take measures to resolve the issues related to the unavailability of healthcare officers through the intervention of remote medical consultations and the development of a transparent system for the allocation of doctors to healthcare facilities in a systematic manner devoid of any manual intervention. The procurement and management of necessary equipment would also be facilitated by enterprise architecture foundational capability.

S.No	Key indicators	Primary Responsible Department
1	Children under age 5 years who are stunted	Health & Family Welfare
2	Percentage Reduction of children aged 6-59 months who are anemic.	Health & Family Welfare
3	Children under age 5 years who are wasted	Health & Family Welfare
4	Pregnant women aged 15-49 years who are anemic (11.0 g/dl)	Health & Family Welfare
5	Reduce maternal mortality ratio (MMR) per lakh	Health & Family Welfare
6	Percentage of mothers receiving antenatal care	Health & Family Welfare
7	Percentage of mothers receiving postnatal care	Health & Family Welfare
8	Percentage of home births compared to total number of births	Health & Family Welfare
9	Percentage of children aged 12-23 months fully immunized (BCG, Measles, and three doses of pentavalent vaccine)	Health & Family Welfare
10	Reduce Neonatal mortality rate per Lakh	Health & Family Welfare
11	Number of new HIV infections as a percentage of total population by sex, age and districts	Health & Family Welfare
12	Annual notification of TB patient per lakh population	Health & Family Welfare
13	Increase in Malaria infection cases as a percentage to last year	Health & Family Welfare
14	Increase in Hepatitis B infection cases as a percentage to last year	Health & Family Welfare
15	Increase in incidents of treatment for following diseases leprosy, lymphatic filariasis (LF), cysticercosis, and rabies (expressed as a percentage growth Y-o-Y)	Health & Family Welfare
16	Mortality rate attributed to Cancer	Health & Family Welfare

S.No	Key indicators	Primary Responsible Department
17	Percentage growth of suicide deaths reported	Health & Family Welfare
18	Number of persons treated in de-addiction centers	Health & Family Welfare
19	Percentage growth in per capita consumption of alcohol	Health & Family Welfare
20	Percentage of pregnant women who have undertaken antenatal checkups as a total number of pregnant women in a time frame of a year	Health & Family Welfare
21	Percentage of pregnant women under 19 years	Health & Family Welfare
22	Total physicians, nurses and midwives per 10000 population	Health & Family Welfare
23	Percentage of families registered under Megha Health Insurance Scheme	Health & Family Welfare
24	Percentage growth of death due to unintentional poisoning	Health & Family Welfare
25	Percentage of households with access to Jan Ausadhi Medical Store within 5 kms of residence	Health & Family Welfare
26	Per capita medical R&D expenditure	Health & Family Welfare
27	Number of qualified doctors per 10000 of the population in rural and urban	Health & Family Welfare
28	Number of AYUSH practioners per 10000 of the population in rural and urban	Health & Family Welfare
29	Number of ASHA workers per 10000 of the population in rural and urban	Health & Family Welfare
30	No. Of ambulances per 10,000 population	Health & Family Welfare
31	No. Of trained disaster response personnel	Health & Family Welfare
32	No. of persons covered in the training and mock drills	Health & Family Welfare
33	Number of operational FRUs per 10,000 population	Health & Family Welfare
34	Number of operational Blood Banks /Blood Storage Unit per 10,000 population	Health & Family Welfare
35	Percentage population trained in emergency response (by gender and age)	Health & Family Welfare
36	Proportion of the population (out of total eligible population) receiving total protection benefits under Maternity benefits	Health & Family Welfare
37	Mortality rate attributed to Diabetes	Health & Family Welfare
38	Mortality rate attributed to Cardiovascular diseases including stroke	Health & Family Welfare
39	Age-standardized prevalence of current tobacco use among persons aged 15 years and older	Information & Public Relations
40	Percentage of schools having access to safe drinking water facilities	Public Health Engineering
41	Percentage growth in number of deaths due to road accidents	Transport

Social Awareness & Inequalities: This strategic pillar focusses on reducing income inequalities by ensuring access to equal opportunities and promoting social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, religion or other status relevant within society. Meghalaya is a front runner in the country when it comes to areas relevant to the SDG for this strategic pillar. However, the Government of Meghalaya is keen to further develop the state in the social awareness field to ensure a holistic development to the life of the people of Meghalaya

Implementation of social welfare schemes and programs has always been hindered by the identification of beneficiaries and delivery to those beneficiaries. MeghEA would look to identify the eligible beneficiary through proactive means and deliver an outcome

S.No	Key indicators	Primary Responsible Department
1	Palma ratio of Household Expenditure in Rural Meghalaya	Community & Rural Development
2	Providing 100 days of employment for every desirous household under MGNREGA	Community & Rural Development
3	100% coverage of eligible beneficiaries under pension/Social Security programs	Community & Rural Development
4	Ratio of rural households covered under public distribution system to rural households where monthly income of highest-earning member is less than Rs.5,000	Food Civil Supplies & Consumer Affairs
5	No. of State officials trained in climate adaptation planning	Forests & Environment
6	Palma ratio of Household Expenditure in Urban Meghalaya	Planning
7	Proportion of people living below 50 per cent of median household expenditure	Planning
8	Percentage of financial assistance from Externally Aided funding institutions as a total of government expenditure (planned) in budget	Planning
9	Percentage of government expenditure in Education, Health and Social Protection	Planning
10	Percentage of government spending under following heads: Social Welfare Rural Development Women benefiting schemes Education scholarships for minority/marginalized community	Planning
11	Percentage of VEC (Village Employment Council) chaired by women	Social Welfare
12	Number of persons with disabilities enrolled under Chief Minister Social Assistance Schemes	Social Welfare
13	Percentage increase in State per capita income of marginalized and BPL families	Social Welfare

2.1.2 Infrastructure

Infrastructure development includes several key sectoral developments including:

- Roads, urban transport, air transport and railways
- Power
- Tourist spots
- Water Supply and Sanitation
- Network Connectivity

Infrastructure is the backbone of the development of any state or country, the Government of Meghalaya is keen to focus on the infrastructure sector and has attracted several funding agencies to partner its venture. The road density of the State is only 47.8 km/ 100 sq. km against the national

average of 170 km/100 sq. km. The State has an installed power capacity of 354 MW, while the total annual loss from utilities stands at a staggering figure of Rs. 500 Crore annually. Even though Shillong is well connected to the rest of the country through Guwahati, the connectivity is limited in rural Meghalaya. Mobile coverage in Meghalaya is about 80% on average, while in rural the value drops to less than 70%.

The Government of India has recently launched the comprehensive telecom development plan for North East, where it plans to cover 2374 uncovered villages and areas along the National Highways at an estimated cost Rs. 3911 Cr. The Government of Meghalaya is keen to enhance rainwater harvesting. It has ambitious plans to revamp the sporting facilities in the state, considering national games in the year 2022

S.No	Key indicators	Primary Responsible Department
1	Percentage of industries(17 category of highly polluting industries/grossly polluting industry/red category of industries) complying with waste water treatment as per CPCB (Central Pollution Control Board) norms.	Commerce & Industries
2	Percentage of smart phone users by: <ul style="list-style-type: none"> • Female • Male 	Information Technology & Communication
3	Number of internet subscriber per 10000 of population	Information Technology & Communication
4	Number of Internet Subscribers per 100 population	Information Technology and Communication
5	Percentage of households with uninterrupted power supply of 16 hours per day	Power
6	Percentage of LPG subscriber to total number of households	Power
7	Renewable energy generation as a percentage of total production	Power
8	Energy intensity measured in terms of primary energy and GDP, 2015-16 (in mega joules per rupee)	Power
9	Percentage growth in capital expenditure in funding solar energy initiatives	Power
10	Percentage of schools having uninterrupted electricity for more than 90% of school hours	Power
11	Percentage of Rural Population provided with 70 or more LPCD (Liter per capita per day)	Public Health Engineering
12	Percentage of Urban Population provided with 70 or more LPCD	Public Health Engineering
13	Percentage of population having safe and adequate drinking water in rural areas	Public Health Engineering
14	Percentage of villages in ODF category	Public Health Engineering
15	Percentage of sewage treated before discharge into surface water bodies	Public Health Engineering
16	Installed sewage treatment capacity as a proportion of sewage generated in urban areas	Public Health Engineering
17	Number of fully operational Laboratories at the State Level/ District Level/Sub Divisional Level for testing of water	Public Health Engineering

S.No	Key indicators	Primary Responsible Department
18	Number of Mobile Water Treatment Plant equipped with mobile laboratory	Public Health Engineering
19	Population covered by piped water supply	Public Health Engineering
20	Percentage of targeted habitations connected by all-weather roads under Pradhan Mantra Gram Sadak Yojana	Public Works
21	Proportion of Passenger and freight volumes, by mode of transport (passengers in number billion / freight in billion Ton)	Transport
22	Number of seats in public transport per 100 urban individuals	Transport
23	Percentage of Irrigation Potential Utilized (IPU) to Irrigation Potential Created (IPC)	Water Resources
24	No. of towns where Projects for sustainability of Sources has been completed	Water Resources
25	Percentage ground water withdrawal against availability	Water Resources
26	Percentage of River Basins mapped	Water Resources
27	Total number of water bodies restored compared to water bodies identified for restoration	Water Resources

Enterprise Architecture would facilitate various such development efforts using digital technologies. Effective resource management through digital technologies could increase efficiency in the power sector. Asset and procurement management enabled by digital technologies would make the government transparent and effective in executing such large-scale programs.

2.1.3 Primary Sector

The focus of the government is to promote the growth of the agriculture sector and its allied activities in a mission mode. The returns would be ploughed back into the economy, thereby generating a multiplier effect, which, in turn, would increase the State's Domestic Product. Meghalaya is confronted with problems in the primary sector,

- Rice production is still much below the demand and bridging this gap would be a key priority.
- With 40% of Meghalaya's horticulture produce wasted, it is necessary to provide value addition to such produce.
- Currently, the State is marketing Rhizome and few other products with a focus on value addition. This may provide potential to increase the farmer's income by 42 percent per kg.
- The agriculture sector contributed around 11.5% to the state's GSDP in 2014-15, hence, it has a massive importance in Meghalaya's GSDP growth.
- Around 60% of planting material is imported into the State either from nurseries in other States or from outside the country, resulting in increased production costs.

The Government of Meghalaya taking below steps to improve development in primary sector:

- To improve agricultural productivity.
- To ensure a balanced use of fertilizers.
- Adoption and promotion of scientific methods of cultivation.
- Significant expansion of irrigation.

The strategy of the government is also to develop a digital platform to provide end to end value chain on farm to fork approach. Digital agriculture has the potential to make agriculture more productive, more consistent and to use time and resources more efficiently. This brings critical advantages for farmers and wider social benefits around the world. It also enables the state to share information across traditional industry boundaries to open new, disruptive opportunities.

The Animal Husbandry and Veterinary Sector is also a focus area in primary sector development, by construction and renovation of veterinary hospitals and dispensaries as well as upgradation and improvement of livestock farms across the state. Milk, Piggery Mission and Poultry farms have the potential to enhance the economic status of the people.

S.No	Key indicators	Primary Responsible Department
1	Farmers with surplus production to sell in the open market	Agriculture & Farmers' Welfare
2	Distribution of soil health cards to 100% farmers by 2019	Agriculture & Farmers' Welfare
3	Percentage increase in total production of fodder in the state	Agriculture & Farmers' Welfare
4	Rice, wheat and coarse cereals produced annually per unit area (kg/Ha)	Agriculture & Farmers' Welfare
5	Percentage growth in average income of small-scale food producers, by sex and indigenous status	Agriculture & Farmers' Welfare
6	Increase net cropping intensity (Cropping intensity refers to raising of a number of crops from the same field during one agricultural year; it can be expressed through a formula. Cropping Intensity = $\frac{\text{Gross Cropped Area}}{\text{Net Sown Area}} \times 100$)	Agriculture & Farmers' Welfare
7	Percentage of indigenous species under conservation	Agriculture & Farmers' Welfare
8	Increase in Agriculture orientation index	Agriculture & Farmers' Welfare
9	Growth (percentage) in gross Agriculture expenditure Y-o-Y	Agriculture & Farmers' Welfare
10	Percentage of growth of export subsidy to agriculture exports	Agriculture & Farmers' Welfare
11	Gross Global Food Loss Index (GFLI) in metric tones	Agriculture & Farmers' Welfare
12	Ratio of chemical fertilizers sold to ratio of crop production	Agriculture & Farmers' Welfare
13	Per-capita milk yield per milk animal.	Animal Husbandry & Veterinary
14	Per capita meat production.	Animal Husbandry & Veterinary
15	Per capita egg production.	Animal Husbandry & Veterinary
16	Proportion of local breeds classified as being at risk, not-at-risk or at unknown level of risk of extinction	Animal Husbandry & Veterinary
17	Ration of Maximum Sustainable Yield (MSY) in fishing to current yield	Fisheries
18	Percentage increase in fish seed production	Fisheries
19	Consumer Price Index variation measured in Q-o-Q	Food Civil Supplies & Consumer Affairs

2.1.4 Entrepreneurship

As per the Department of Industrial Policy and Promotion 2018 report, Meghalaya was placed at 34th place in the “ease of doing business” ranking, at the bottom of the ‘Aspirers’ category.

Considering the above, the Planning Department in the consent of other departments, planned on increasing business opportunities through a simplified and conducive ecosystem to set up a new business.

The government is planning to set up growth hubs.

- The idea is to map the cluster and sub-clusters in a block and identify a few competitive products and build the hub around the products.
- The idea is not only to have a sectoral incubator but also a rural technology park to demonstrate the technologies, a mini industrial estate and an EFC, all in one place. The government has established the Enterprise Facilitation centers (EFCs), set up in each of the 39 erstwhile blocks of the state.
- The state policy on start-ups aims to emerge as one of the leading “Startup Hubs” in India by 2023 through strategic partnerships, conducive ecosystem, investment and policy interventions.

A workflow-based digital ecosystem to support the lifecycle of a business unit is envisaged which includes providing services like getting required approvals and provisions to get permits based on transparent guidelines. The ecosystem is also connected in a way that enables business owners to opt-in to receive news about assistance programs, events, and other information, based on what they required for their business and future growth. The objective is to make Meghalaya a state for Ease of Doing Business.

S.No	Key indicators	Primary Responsible Department
1	Annual growth rate in agriculture sector	Agriculture and Farmers' Welfare
2	Farmers with surplus crop production, enabled to be an entrepreneur	Agriculture and Farmers' Welfare
3	Annual growth rate in services sector	Commerce & Industries
4	Number of startups facilitated	Commerce & Industries
5	Gross Capital Formation by industry	Commerce & Industries
6	Percentage of employment in Manufacturing sector	Commerce & Industries
7	Output, value added from manufacturing industry in house hold sector	Commerce & Industries
8	Percentage/ Proportion of Credit flow to MSMEs (as a Percentage of Total Adjusted Net Bank Credit)	Commerce & Industries
9	Percentage of population living below the National Poverty line	Community & Rural Development
10	Percentage of deprived rural households that are covered under different poverty alleviation programs.	Community & Rural Development
11	Exclusive bank credit linked women SHGs (Self Help Groups)	Community & Rural Development
12	Increase in number of youth job card holder under MGNREGA, by gender	Community & Rural Development
13	Number of man days created under Mahatma Gandhi National Rural Employment Guarantee Act(MGNREGA)	Community & Rural Development

S.No	Key indicators	Primary Responsible Department
14	Growth rate of registered Micro, Small and Medium Size Enterprises	Labour
15	Percentage increase in number of tourists	Tourism
16	Contribution of Tourism to GSDP (%)	Tourism

2.1.5 Environment Sustainability

On environment protection, the government has built conservation and sustainability into all the developmental activities, whether in the implementation of EAPs or regular state programs. The government is committed and remains focused to reduce the adverse per capita environmental impact of cities, improving universal access to safe, inclusive and accessible, green and public space for all. Mining activities have been limited and being carried out on a sustainable basis. The government has several key programs that are aided by external agencies focused on sustainability.

Massive awareness through digital campaigns for citizen engagement and behavior change is being planned with the help of media and digital channels.

S.No	Key indicators	Primary Responsible Department
1	Number of companies publishing sustainability reports	Commerce & Industries
2	Percentage of population benefitted under NSAP (National Social Assistance Programme)	Community & Rural Development
3	Percentage of rural and urban households benefitted under PMAY-G(Pradhan Mantri Awaas Yojana-Gramin).	Community & Rural Development
4	Percentage of houses completed under Pradhan Mantri Awas Yojana (PMAY) to net demand assessed for houses	Community & Rural Development
5	Number of HH benefitted from the PMAY-G houses constructed.	Community & Rural Development
6	Percentage of eligible households to have access to food security through National Food Security Act (NFSA) and the enhanced PDS system	Food Civil Supplies & Consumer Affairs
7	CO2 equivalent emission per unit of manufacturing value added	Forests & Environment
8	Percentage increase of Tree Outside Forest (TOF) in total forest cover	Forests & Environment
9	Increase in area under afforestation / tree plantation	Forests & Environment
10	Increase in Very Dense Forest cover	Forests & Environment
11	Percentage of villages with JFMCs (Joint Forest Management Committee)	Forests & Environment
12	Increase in Moderately Dense Forest	Forests & Environment
13	Percentage of degraded area restored	Forests & Environment
14	Increase in forest / vegetative cover in mountain areas	Forests & Environment
15	Number of wild life offences booked	Forests & Environment
16	Number of detections of offences and prevention measures for traded wildlife that was poached or illicitly trafficked	Forests & Environment

S.No	Key indicators	Primary Responsible Department
17	Percentage of Urban poor household covered under housing schemes	Housing
18	Number of urban Homeless under Shelter Homes	Housing
19	Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)	Meghalaya State Pollution Control Board
20	Increase/decrease in imposition of adequate Tax per unit of fossil fuel consumption.	Mining
21	Percentage of Priority Sector Advances to Total credit/Advance	Planning
22	Percentage of conservation expenditure of government to total expenditure (annually)	Planning
23	Percentage of waste processed	Public Health Engineering
24	Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment	Public Health Engineering
25	Number of Community Mini Compost plants established	Public Health Engineering
26	Percentage of organic waste converted into compost	Public Health Engineering
27	Percentage of urban waste that has been segregated	Public Health Engineering
28	Number of deaths, missing persons and persons affected by disaster per 10,000 population	Revenue & Disaster Management
29	Percentage of towns and Cities covered under the Disaster Reduction Risk Strategy	Revenue & Disaster Management
30	Number of deaths, missing persons and directly affected persons attributed to disasters per 10,000 population	Revenue & Disaster Management
31	Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools	Tourism
32	Number of urban poor having access to basic services	Urban Affairs
33	Percentage of urban households living in slums	Urban Affairs
34	Net Density (total urban population by total habitable land area)	Urban Affairs
35	Percentage of collection and safe disposal of solid waste	Urban Affairs
36	Percentage of wards with 100% door to door waste collection	Urban Affairs
37	Number of impaired/ dead springs rejuvenated	Water Resource
38	Percentage of increase in restoration of water bodies / stream in mountain areas	Water Resources

2.1.6 Governance for the people

Government of Meghalaya has been a pioneer in transparency-based governance, through initiatives such as the Social Audit Act, it has been the front runner in the country. The government is further keen to focus on transparency and accountability of fund management using the latest technologies such as analytics.

In terms of governance, Meghalaya is one of the few states where traditional institutions also exist. This allows people to have a greater stake and ownership in the governance of the state.

Effective governance is the priority of the Government of Meghalaya. The government has undertaken various initiatives (including social audit) e-governance and citizen participation, safety & security of citizens, health & education and sustainable urban environment are the areas of focus. As a part of various initiatives being undertaken by the government, it is also in the process to strengthen governance through data-driven methodology, a program has been successful at the district level and would be soon replicated in other districts.

S.No	Key indicators	Primary Responsible Department
1	EoDB ranking as per DIPP evaluation	Commerce & Industries
2	Socially engaged Population aged between 3 to 60	Community & Rural Development
3	Percentage of RTI queries responded	Cooperation
4	Funds utilized vis-à-vis estimates	Finance
5	Number of employees in state government under physically handicapped category	General Administration
6	Proportion of children under 5 years of age whose births have been registered with a civil authority, by age	Health & Family Welfare
7	Unsentenced detainees as a proportion of overall prison population	Home (Jails)
8	Rate of crime against women and children per 100,000	Home (Police)
9	Percentage growth in marital violence registered in local police stations	Home (Police)
10	Number of Domestic Violence cases registered	Home (Police)
11	Number of cases registered and disposed off by Women Commission	Home (Police)
12	Proportion of sexual crimes against women and children to total crime against women and children	Home (Police)
13	Number of marriages reported with girls below the age of 18	Home (Police)
14	Number of crimes relating to human trafficking	Home (Police)
15	Number of children registered in Track the Missing Children Portal by all registered Child Care Institution	Home (Police)
16	Percentage growth in the number of sexual harassments cases reported	Home (Police)
17	Reported murders per 1 lakh population	Home (Police)
18	Number of victims of intentional homicide per 10,000 population	Home (Police)
19	Proportion of population subjected to physical, psychological or sexual violence in the previous 12 months	Home (Police)
20	Reported cognizable crimes against children per 1 lakh population	Home (Police)
21	Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation	Home (Police)
22	Proportion of Crime Committed against Children during the year	Home (Police)

S.No	Key indicators	Primary Responsible Department
23	Percentage of Gram Panchayats covered under BharatNet	Information Technology & Communication
24	Percentage of digital payments in government	Information Technology & Communication
25	Services available online	Information Technology and Communication
26	Proportion of women subjected to dowry related offences to total crime against women	Law
27	Number of children referred to Child Welfare Committees and cases disposed off	Law
28	Number of children in Child Care Institutions	Law
29	Number of children declared free for Adoption by CWCs	Law
30	Number of children placed under Foster Care by SFCC	Law
31	Number of children provided Sponsorship by the Sponsorship and Foster Care Committee under ICPS scheme	Law
32	No. of NDPS and MACT cases in the State	Law
33	No. of POCSO cases in recent months/years	Law
34	Annual growth rate of GSDP per capita	Planning
35	Population satisfied with their last experience of public services	Planning
36	Proportion of domestic budget funded by domestic taxes	Planning
37	Total liability as a percentage of state GDP	Planning
38	Percentage of population covered under Aadhaar	Planning
39	Number of bank branches in Urban , Semi-urban and Rural areas	Planning
40	Number of Business Correspondents (BCs) per branch	Planning
41	Number of commercial bank branches and automated teller machines (ATMs) per 10,000 adults	Planning
42	Percentage of accounts with Nil / 1-5/ more than 5 transactions annually	Planning
43	Proportion of population having Bank accounts	Planning

2.2 Assumptions

- The Government of Meghalaya’s strategic pillars are based out of the Meghalaya Vision Document (2020-21 to 2024-25) report, the nuances of each strategic pillars are derived from the report.
- NITI Aayog has constructed the SDG India Index spanning across 13 of the 17 SDGs. The Index tracks the progress of all the States and UTs on a set of 62 Priority Indicators, measuring their progress on the outcomes of the interventions and schemes of the Government of India. These indicators were only considered in mapping with the strategic pillars
- The target setting exercise of NITI Aayog indicates the target value for each indicator for all states to be achieved by 2030. To achieve the highest possible score the states must reach

the target set for 2030. It is imperative to note that the target value if achieved earlier would fetch the maximum score under the SDG for the state in SDG India Index

- Since Meghalaya Government envisions Meghalaya to be a “High Income State by 2030”, it is assumed that the country targets are applicable to the state of Meghalaya as well.

3. Meghalaya Government Transformation

Government of Meghalaya Vision: *“High Income State by 2030”*

The above statement highlights the Government of Meghalaya’s overall vision and the preceding section lists down **what the government wants to achieve** and enlists the six key strategic pillars as key priorities of the government. These six pillars define the state government’s priorities and are in line with the Sustainable Development Goals adopted by the country.

These goals and indicators are assigned to the departments. Primary and secondary responsibilities were assigned to departments, **who would work towards attaining the goals** to meet the target under each SDG indicators.

Baseline figures are available for the state based on the SDG India Index report, December 2018. Basis of these, the service delivery transformation needs for attaining these goals has to be identified.

To leverage technology and to support the growth agenda of the state, an Enterprise Architecture vision framework has been drawn below. This would help the EA team to have the architecture value chain drawn up along the EA vision aligned to the state’s growth agenda.

3.1 MeghEA Vision Framework

Meghalaya Architecture Vision is one of the key aspects of the program. The vision is intended to provide a high-level, aspirational view of the future state architecture for the Government of Meghalaya. The purpose of the vision is to understand at the outset what the desired outcome for the program should be so that the project can then focus on the critical areas to validate feasibility. Providing a Vision that supports all key stakeholders concerned has been the objective behind drafting the vision.

The key inputs behind drafting the vision:

- **Meghalaya Government’s Vision**

MeghEA Vision has been aligned to the state government’s vision of making Meghalaya a “High Income State by 2030”

- **Department inputs on Meghalaya Enterprise Architecture**

10 key departments, aligned to the state’s growth agenda, participated in the visioning exercise, these departments were chosen initially with the understanding that other departments would soon be added up in the exercise

- **Sustainable Development Goals (SDG) and Targets**

The Sustainable Development Goals (SDGs) are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. Planning

Department, Government of Meghalaya has identified the applicable goals and have defined key strategies for attaining various indicators. Since all departments in Meghalaya are yet to come out with quantifiable goals, these targets came-in very handy in defining the targets that each department would need to achieve in a definite timeframe

- **MeghEA Vision and Mission**

The MeghEA vision and mission were derived based on the above strategic pillars and the department’s vision and mission. The MeghEA vision and mission, so derived are based on the key drivers identified that would facilitate the state to reach the desired vision of “High Income State by 2030”

- **MeghEA Foundational capabilities**

The foundational capabilities are the key enablers that would help the Government of Meghalaya address the stakeholder concerns, realize the SDG targets and facilitate realizing the mission, vision and goals of the department



Figure 1: MeghEA Vision Framework

3.2 MeghEA Vision, Mission & Foundational Capabilities

The citizens of Meghalaya need access to quality government services anytime and anywhere. The employees of the Government of Meghalaya need to be supported with access to quality and relevant information from any and every government unit. Businesses expect to support, and be supported by, the government in developing quality operating units in and around Meghalaya and provide employment opportunities to the people of Meghalaya.

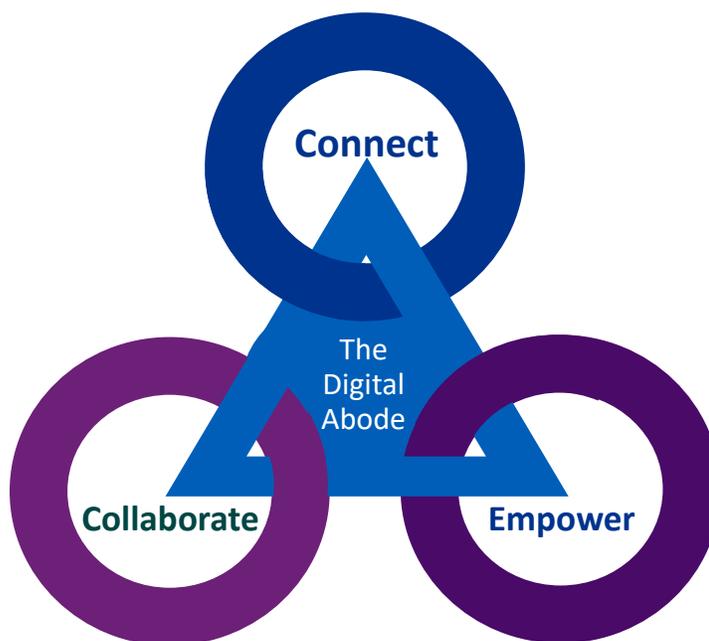
To achieve all the above objectives MeghEA vision is formulated to ensure an organized approach towards achieving the State of Meghalaya Targets. This vision has been the derived basis of the Government of Meghalaya’s priorities, Sustainable Development Goals and stakeholder voices.

The vision sets the mission and directions for the foundational capability; hence, it connects the objectives of MeghEA with that of the Government of Meghalaya.

3.2.1 The Vision

Making “Meghalaya The Digital Abode”

By Connecting, Collaborating and Empowering Citizens,
Businesses & Employees with empathy



3.2.2 The Mission

The vision formed is further detailed in the mission to explain to the stakeholders what needs to be done to achieve the vision. The missions are:

Connect	Connecting citizens, business and communities to the governance ecosystem through convenient channels leveraging modern technologies. Connect would also interlink the service providers with service beneficiaries in an open but secured manner.
Collaborate	Making government units cohesively work towards delivering value ensuring a single government experience to the stakeholders of the government. Collaborate would also orchestrate the activities of the government to enhance efficiency in functioning and citizen centric service delivery.
Empower	Creating opportunities and accessibility provided to citizens, to develop capabilities that are valuable to actively participate in the development and decision making of a community. It can be viewed in terms of knowledge and other aspects (such as digital inclusion) and affecting their everyday quality of life.

3.2.3 Strategic Alignment

Basis of the initial study, the architecture alignment to the State vision is provided below. The foundational capabilities under each mission levers have been mapped to the strategy to illustrate how they would enable the implementation of the growth agenda. However, this is indicative and shall be updated through the complete architecture life cycle exercise.

Meghalaya Government Strategic Pillars	Meghalaya Enterprise Architecture Mission & Foundational Capabilities			
	Connect	Collaborate	Empower	
Human Development	<ul style="list-style-type: none"> • Digital ID • Digital Service • Personalized Service 	<ul style="list-style-type: none"> • Digital Pymt. • Digital Infra • Digital Markets 	<ul style="list-style-type: none"> • One Government • Cloud Sourcing • Collaborative Platform • Social Connect 	<ul style="list-style-type: none"> • Decision Support • Awareness • Digital Literacy
Infrastructure	<ul style="list-style-type: none"> • Digital ID • Digital Service 	<ul style="list-style-type: none"> • Digital Pymt. • Digital Infra • Digital Markets 	<ul style="list-style-type: none"> • One Government • Collaborative Platform • Social Connect 	<ul style="list-style-type: none"> • Decision Support • Business Rule
Primary Sector	<ul style="list-style-type: none"> • Digital ID • Digital Service • Personalized Service 	<ul style="list-style-type: none"> • Digital Pymt. • Digital Infra • Digital Markets 	<ul style="list-style-type: none"> • One Government • Collaborative Platform • Social Connect 	<ul style="list-style-type: none"> • Decision Support • Awareness • Digital Literacy
Entrepreneurship	<ul style="list-style-type: none"> • Digital ID • Digital Service • Personalized Service 	<ul style="list-style-type: none"> • Digital Pymt. • Digital Infra • Digital Markets 	<ul style="list-style-type: none"> • One Government • Cloud Sourcing • Collaborative Platform • Social Connect 	<ul style="list-style-type: none"> • Decision Support • Awareness • Digital Literacy
Environment Sustainability	<ul style="list-style-type: none"> • Digital ID • Digital Service 	<ul style="list-style-type: none"> • Digital Pymt. • Digital Infra • Digital Markets 	<ul style="list-style-type: none"> • One Government • Cloud Sourcing • Social Connect 	<ul style="list-style-type: none"> • Decision Support • Awareness • Business Rule • Digital Literacy
Governance	<ul style="list-style-type: none"> • Digital ID • Digital Service 	<ul style="list-style-type: none"> • Digital Pymt. • Digital Infra 	<ul style="list-style-type: none"> • One Government • Collaborative Platform 	<ul style="list-style-type: none"> • Decision Support • Business Rule • Decision Support • Business Rule

3.2.4 Foundational Capability

The mission components that is Connect, Collaborate and Empower are pillars of the strategy to deliver and drive transformation. Towards achieving this, a list of foundational capabilities is listed below which are primary and cutting across the six strategic pillars. These foundational capabilities are indicative in nature as of now at the vision stage and shall be elaborated subsequently.

Connect

- Digital ID
- Digital Services
- Personalized Services
- Digital Payments
- Digital Marketplace
- Digital Infrastructure



Empower

- Decision Support
- Entitlement Awareness
- Right to Service Delivery
- Citizen Consent Framework
- Digital Literacy

Collaborate

- One Government
- Collaborative Platform
- Social Connect
- Cloud Sourcing of Services

Connect

Digital ID

The digital identification would be designed considering that the primary objective is to identify citizens (service beneficiary), to deliver government services. The digital ID for Meghalaya would be considered post-analysis of current state architecture. A provision for a family’s digital ID would also be explored.

Digital Services

The digital services are Whole-of-Government (WoG) services built on highly secure, reliable, scalable, replicable and open technologies of the new age, seamlessly interfacing with a host of delivery channels, and are intelligent. and, most often, leveraging the power of API’s for interoperating with the rest of the eco-system. The service delivery portfolio would be analyzed to rationalize and ease service delivery.

Personalized Services

Personalized services are the services which an individual/ business prefers and is eligible to avail based on the demographic data entered/ available in his/her profile. These are aspirations based on one’s specific needs, abilities, and expectations.

Digital Payments

Digital payment is a way of making transactions or paying for goods or services through an electronic medium without the use of check or cash, without appearing in person and at the convenience of stakeholders. The foundational capability would look to establish a robust digital payment.

Digital Marketplace

The digital marketplace is a single destination to access and purchase various commodities and services. It simplifies previous processes and makes the buyer comfortable to buy with complete confidence.

Digital Infrastructure

The digital infrastructure would provide necessary impetus towards the achievement of all the above foundational capabilities. The infrastructure development would include network, storage, data center/ cloud infrastructure, etc. as the key infrastructure needed to operate technology platforms.

Collaborate

One Government

The one government foundational capability aims to provide seamless delivery of services to various stakeholders by integrating various departments through enterprise service integration. The initiative would cut across departments, making them collaborate to deliver services, appearing as a “One Government” to the service beneficiary.

Collaborative Platform

The collaborative platform would connect all workflows and processes across departments to facilitate effective collaboration in service delivery, these would include communication platforms such as emails, chat messengers, etc. and workflow solutions such as e-Office.

Social Connect

The social connect foundational capability would facilitate service delivery and information through social channels to the various service beneficiary. This platform would enable government service delivery in social media channels as well

Cloud Sourcing of Services

The cloud sourcing initiative would enable provisioning of service through various public and private organizations using government data through key e-Governance initiatives such as Open Data.

Empower

Decision Support

The decision support capability would provide decision support systems to various stakeholders including senior leadership within the government to provide support in decision making through provisioning of real-time data.

Entitlement Awareness

The foundational capability would enable citizens and businesses to understand service eligibility and service benefits. The initiative would facilitate the delivery of services proactively to service beneficiaries, making the government reach out to citizens with services, a paradigm shift from on-demand services.

Right to Service Delivery

The foundational capability would help the various stakeholders in getting time-bound services from the government. The objective is to leverage technology to expedite service delivery and at the same time minimize human discretion thereby bringing in efficiency and transparency. The rules would enable system driven government work allocation and other administrative decisions.

Citizen Consent Framework

Since citizen data is involved, there would be a mechanism for obtaining stakeholder consent for using the information provided by them for other government services. Appropriate measures would be taken by the government to safeguard the private/confidential data of the stakeholders.

Digital Literacy

This foundational capability has the objective to empower citizens on social topics to build socially responsible citizens. The initiative would be fueled by the availability of digital content storage and retrieval systems.

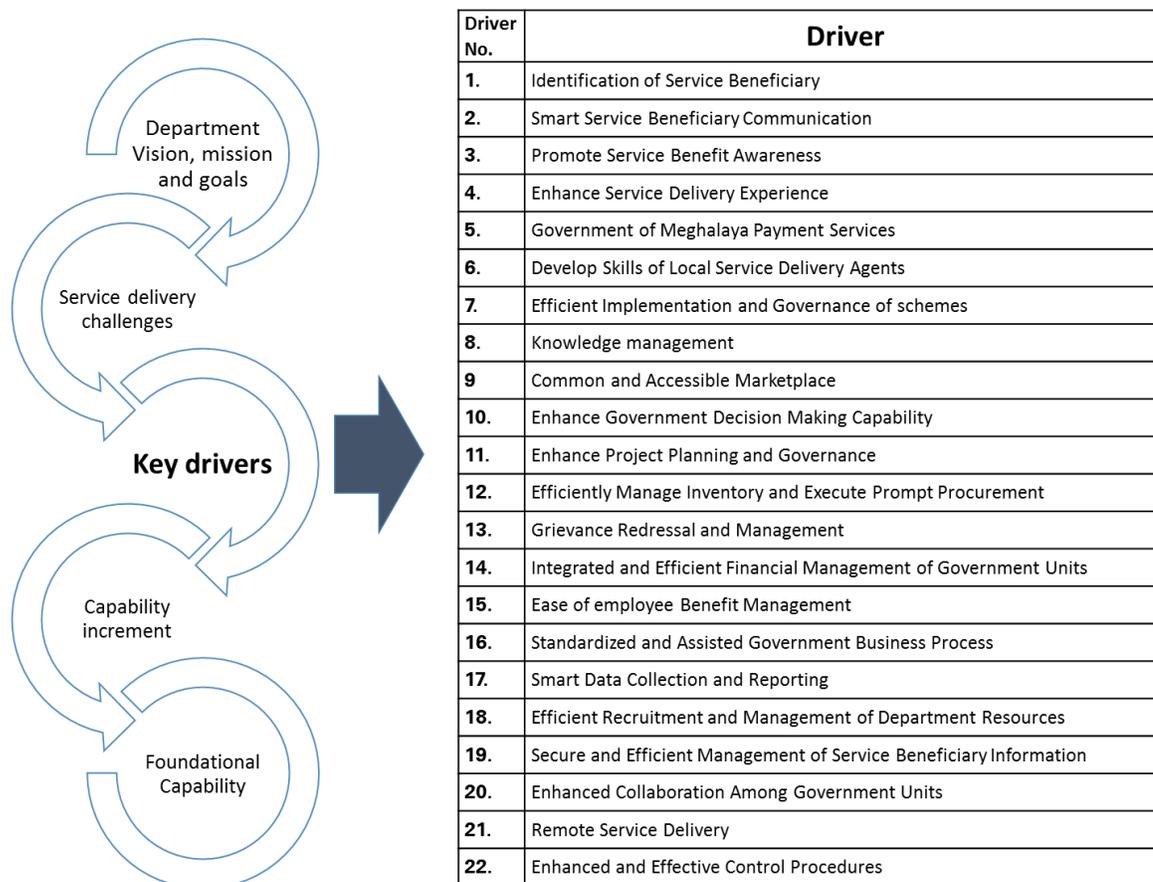
The foundational capabilities are further analyzed to understand the current state vis-à-vis desired future state:

EA Foundational Capability	Current State	Target State
Digital ID	There is a lack of adoption of citizen identification card or digital ID. Aadhaar adoption is less than 1/3rd of population	Digital ID provisioning for all citizens
Digital Services	Less than 200 e-services are available. Government internal services are mostly non-digital	To make services digitally available to various stakeholders
Personalized Services	Services are yet to be personalized	All services to be personalized based on citizen or employee profile
Digital Payments	Availability of GRAS	All payment to be on digital channels
Digital Marketplace, EODB, Single window clearance	Limited intervention like 1917iTeams providing market-oriented services to farmers	Whole-of-Government digital marketplace
Digital Infrastructure	Mobile Network- Less than 70% of rural coverage	Last-mile connectivity to all government offices
One Government	Lack of an integrated system	Process reengineering and Enterprise Integration
Collaborative Platform	Non-availability of government platform	Email, Chat, e-Office, etc.
Social Connect	Only some services exist, need for comprehensive social media connect	Social platform integrated service delivery
Cloud Sourcing of Services	Not available	Open Data, Cloud sourcing
Decision Support	Manual systems with a lack of data integrity	Data Analytics, Decision Support System, Dashboard Reporting
Entitlement Awareness	Ad-hoc and manual system	Service eligibility notifications, Service benefit awareness
Right to Service Delivery	Ad-hoc; No right to public services	Time-bound service delivery
Citizen Consent Framework	Doesn't exist	Framework for data usage and its security

EA Foundational Capability	Current State	Target State
Digital Literacy	Available in some schemes	Facilitated by system, Availability of digital content

3.3 Key Drivers

MeghEA team has held multiple workshops and discussions with various stakeholders of the key departments of the Government of Meghalaya. The department has also provided inputs related to key vision, mission and challenges. Basis of the challenges and aspiration of the departments, the MeghEA team has been able to derive key drivers that would lead to the solutions for these business requirements. These key drivers would lead to people, process and technology transformation through capability increments across the government units. Each of these drivers may lead to one or multiple capability increments. The drivers have been listed below:



These drivers would address the challenges of the departments and facilitate them to realize their vision, mission and goals. Their details are as follows:

Driver No.1	Identification of Service Beneficiary
Description	Enables unique identification of citizens, employees, organizations and partner entities. The objective is to identify service beneficiary through characteristics that match the service criteria set by the Government of Meghalaya.
Use Case	<ol style="list-style-type: none"> 1. Citizens, employees, businesses and partner entities need not provide elaborate documentation proof to avail government services, identification of beneficiary is achieved through unique digital ID 2. Government proactively reaches eligible service beneficiary to deliver the service
Stakeholders Impacted	<ul style="list-style-type: none"> • Citizens • Government Employees • Business • Partner Entities

Driver No.2	Smart Service Beneficiary Communication
Description	Campaign, promote and build awareness of schemes and services. Establish communication between government and citizens, businesses using a variety of channels, such as email, SMS, IVRS, or social media.
Use Case	<ol style="list-style-type: none"> 1. Citizens, employees, businesses entities get notifications related to eligible services 2. Citizens become aware of newly launched services through social media communication 3. Governments disseminate information related to services to several beneficiaries at one go using the latest digital technologies
Stakeholders	<ul style="list-style-type: none"> • Citizens • Business

Driver No.3	Promote Service Benefit Awareness
Description	The objective is to raise awareness of a new scheme or service to the prospective beneficiary of the service. Create and distribute content to promote awareness of a service. This would also create a simplified service charter to enable citizens to avail services with required information
Use Case	<ol style="list-style-type: none"> 1. Field workers access contents to promote and build awareness about service benefits 2. Access contents to build awareness on social topics
Stakeholders	<ul style="list-style-type: none"> • Citizens • Partner agencies such as NGOs, field workers, etc. • Business

Driver No.4	Enhance Service Delivery Experience
Description	Establish a lean and fast service delivery process to ensure services are delivered to beneficiaries in the least possible timeframe as per entitlements. Continuously improve and modify services delivery mechanism to enhance the citizen experience
Use Case	<ol style="list-style-type: none"> 1. Citizens avail real-time certificate using lean service delivery mechanism 2. Business entities are prompted with relevant information while applying for services
Stakeholders	<ul style="list-style-type: none"> • Citizens • Business • Partner Entities

Driver No.5	Government of Meghalaya Payment Services
Description	Enables financial transactions to and from the government to citizens, organizations, employees and other entities. This service is intended to deliver monetary benefits without any human interventions
Use Case	<ol style="list-style-type: none"> 1. Enables remote payments to government units to deliver services 2. Transfer funds to units/entities without manual intervention
Stakeholders	<ul style="list-style-type: none"> • Citizens • Business • Government

Driver No.6	Develop Skills of Local Service Delivery Agents
Description	Skill development of various stakeholders such as field workers, CSC Agents, NGOs, self-help groups to up-skill them to connect with citizens to deliver the best in class service. This would be primarily achieved through re-use of digital content
Use Case	<ol style="list-style-type: none"> 1. Deliver content to train and up-skill field workers 2. Create and disseminate content for service process awareness 3. Restore and modify content to suit needs
Stakeholders	<ul style="list-style-type: none"> • Citizens • Partner entities • CSC Agents

Driver No.7	Efficient Implementation and Governance of schemes
Description	Ensure each entitled scheme beneficiary receives scheme benefits. It also intends to establish a governance mechanism to monitor the scheme's effectiveness and take prompt corrective action
Use Case	<ol style="list-style-type: none"> 1. Ability to monitor scheme acceptability and measure success 2. Ability to diagnose issues related to scheme effectiveness
Stakeholders	<ul style="list-style-type: none"> • Government • Partner entities

Driver No.8	Knowledge management
Description	Identify, store and retrieve organizational assets to help provide meaningful knowledge. Knowledge management includes collection of assets, indexing of such assets to enable ease of search and controlled distribution of such assets
Use Case	1. Government officers facilitated by the ability to store and retrieve knowledge assets for day-day functioning
Stakeholders	<ul style="list-style-type: none"> • Government • Employees

Driver No.9	Common and Accessible Marketplace
Description	Establish a platform that can be utilized by buyers and sellers, allowing for easy transactions of goods and services. This platform would be further used to create an ecosystem in which government procures from focused sellers
Use Case	<ol style="list-style-type: none"> 1. Farmers access platform to sell farm products 2. Access an ecosystem to benefit small scale buyers and sellers
Stakeholders	<ul style="list-style-type: none"> • Citizens • Government • Business

Driver No.10	Enhance Government Decision Making Capability
Description	Establish process and technology to enhance decision making capability to take appropriate action backed by sound analysis
Use Case	<ol style="list-style-type: none"> 1. Access to business solutions that enable decision making through all-round analysis using the latest technologies 2. Utilize the process created to analyze data before decision making to help enable better decision
Stakeholders	<ul style="list-style-type: none"> • Employees • Government

Driver No.11	Enhance Project Planning and Governance
Description	Manage and coordinate resource, task, procurement and other related activities through an established process using state of the art technology
Use Case	1. PHED Engineer monitors project progress through digital systems and take appropriate corrective action
Stakeholders	<ul style="list-style-type: none"> • Employees • Government

Driver No.12	Efficiently Manage Inventory and Execute Prompt Procurement
Description	Efficiently manage inventory of various government equipment, machinery, etc. and manage the business process of procurement.
Use Case	1. Access to inventory, stock and automated procurement to enable efficient delivery of services to citizens
Stakeholders	<ul style="list-style-type: none"> • Employees • Government • Business

Driver No.13	Grievance Redressal and Management
Description	Prompt action to grievances raised by service beneficiary and redressal of the same through all available channels
Use Case	1. Citizen files complaint on inability to receive service in specified SLA
Stakeholders	<ul style="list-style-type: none"> • Employees • Government • Citizens • Business • Partner Entities

Driver No.14	Integrated and Efficient Financial Management of Government Units
Description	Enhanced business processes and supporting technology to ensure consistent and reliable information flow between various departments to improve transparency, enhance planning and support decision making
Use Case	1. Department of finance can view expenditure on specified schemes at real-time
Stakeholders	<ul style="list-style-type: none"> • Employees • Government

Driver No.15	Ease of employee Benefit Management
Description	Enhanced and efficient delivery of employee services such as pension, salary, entitlements with maximum ease
Use Case	1. Pension is auto disbursed in employee's account without application for the same
Stakeholders	<ul style="list-style-type: none"> • Employees

Driver No.16	Standardized and Assisted Government Business Process
Description	Standardized and uniform business process in government, supported by assisted documentation, technology guidance and workflows
Use Case	1. Government officers are assisted with next action guidance in a service delivery process
Stakeholders	<ul style="list-style-type: none"> • Employees • Government

Driver No.17	Smart Data Collection and Reporting
Description	State of art process and system to enable the collection of field-level data and reporting of the data in the defined format
Use Case	<ol style="list-style-type: none"> 1. Access to portable devices to collect data in digital formats 2. Availability of flexible dashboards and reports for decision making
Stakeholders	<ul style="list-style-type: none"> • Employees • Government • Partner Entities

Driver No.18	Efficient Recruitment and Management of Department Resources
Description	Lean recruitment process along with posting, vacancy tracking and other key resource management activity for demand fulfilment and efficient service delivery
Use Case	<ol style="list-style-type: none"> 1. Demand fulfilment through fast and effective resource management 2. Availability of demand related information for prompt fulfilment
Stakeholders	<ul style="list-style-type: none"> • Employees • Government

Driver No. 19	Secure and Efficient Management of Service Beneficiary Information
Description	Secure information related to service beneficiary and make it accessible through controlled measures to enhance better citizen services using digital technology
Use Case	<ol style="list-style-type: none"> 1. Security and privacy of citizen and government data 2. Availability of citizen and government data to authorized requests
Stakeholders	<ul style="list-style-type: none"> • Employees • Citizens • Government

Driver No.20	Enhanced Collaboration Among Government Units
Description	Efficient and integrated functioning of government units through collaboration among the units. Collaboration to be enhanced to ensure optimum coordination among government units
Use Case	<ol style="list-style-type: none"> 1. Effective collaboration among government units to deliver services as a one-stop-shop to all service beneficiaries 2. Connected process and information to ease collaboration among units
Stakeholders	<ul style="list-style-type: none"> • Employees • Citizens • Government

Driver No.21	Remote Service Delivery
Description	Delivery of citizen services with minimal need for physical visits using state of art digital technologies
Use Case	1. Primary healthcare using telemedicine to rural patients
Stakeholders	<ul style="list-style-type: none"> • Citizens • Employees • Partner Entities

Driver No: 22	Enhanced and Effective Control Procedures
Description	Establish a mechanism to control and check the quality of various services and goods regularly used by citizens
Use Case	1. Food contamination source identification using blockchain technology
Stakeholders	<ul style="list-style-type: none"> • Citizens • Businesses • Partner Entities

4. MeghEA High-Level Architecture

4.1 Statement of Architecture Work

The central government through the IndEA Working Group has produced the IndEA national standard for standardizing and optimizing the e-governance efforts, and to speed up the transformation journey of a government enterprise. India Enterprise Architecture (IndEA), based on The Open Group Architecture Framework (TOGAF) remains the baseline while developing the Enterprise Architecture blueprint for the Government of Meghalaya. IndEA has reference models, best practices and standards for solutions delivery teams to make effective design and technology choices. MeghEA would be based on the IndEA framework while necessary modification would be done to ensure the right fit adoption.

Project Background

Ministry of Electronics and Information Technology has notified the IndEA framework as a standard for e-Governance. National e-Governance Division has been entrusted with the mandate to drive the India Enterprise Architecture (IndEA) framework adoption across Government Ministries, States and other Agencies. Meghalaya has been selected as the first State under the IndEA programme for the preparation of State-Wide Enterprise Architecture along with a pilot implementation for the Finance sector.

Planning Department of Government of Meghalaya has been trusted with the role of nodal department, while NIC Meghalaya is the coordination and monitoring agency for the implementation of MeghEA. KPMG Advisory Services Private Limited has been chosen as the consulting agency for the project.

Stakeholder Benefits Envisaged

Below are the key points, based on the objectives specified in IndEA and aligned to the need of the Government of Meghalaya:

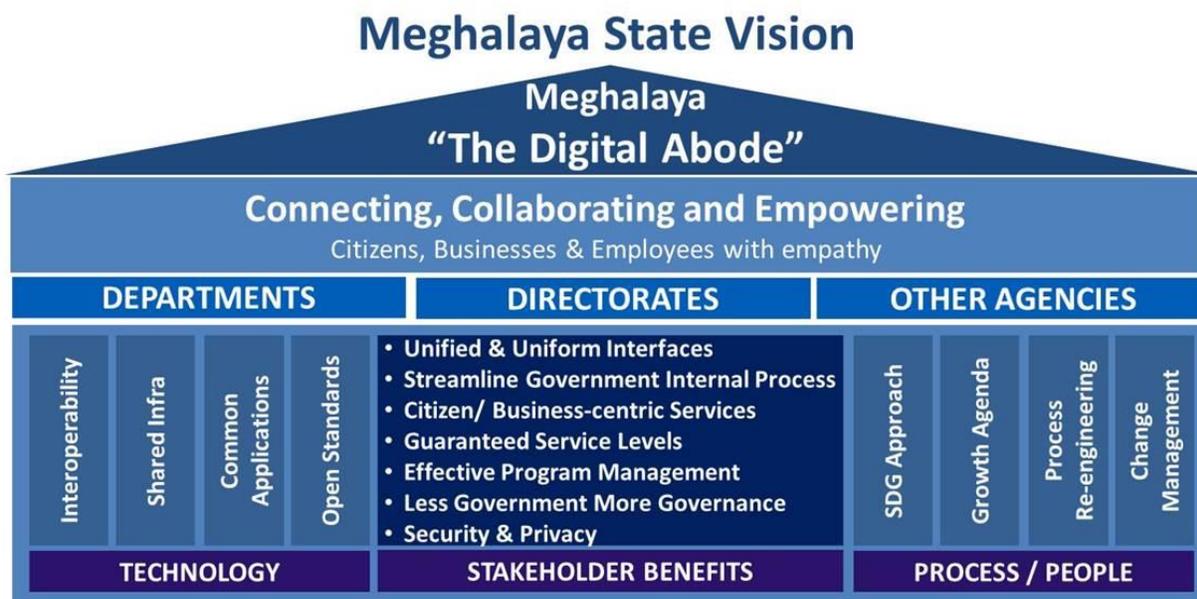
- Provide a ONE Government experience – **Unified and Uniform Interfaces**
- **Streamline government internal process**
- Enhance the efficiency of delivery of services – **Citizen and Business-centric services**
- Improve the effectiveness of implementation of services – **Guaranteed Service Levels**
- Enhance the productivity of employees and agencies – **Less Government more Governance**
- Maintain the required security of data and privacy of personal information – **Security and Privacy**
- Enable decision making through **decision support system and data analytics**
- Implement process and systems **aligned to the local needs**

Key Drivers and Challenges

The MeghEA team has interacted with several key stakeholders of key departments and their corresponding directorates. The team has also interacted with senior leadership of the Government of Meghalaya to understand the key challenges and issues to lead to the MeghEA vision and key drivers. The key drivers have been listed in section 3, the MeghEA vision, mission and foundational capabilities are derived according to the key drivers, these key drivers are aligned to resolve the day-day challenges faced by the agencies in delivering services to various stakeholders

4.2 Strategic Alignment

Based on the study so far and information received, the strategic alignment of MeghEA to the stakeholder benefits and methods to be adopted is illustrated below:



The above is subject to change as the project moves to the next level and more granular information is obtained.

The Methods

While MeghEA vision and mission illustrate what needs to be attained and how it needs to be attained, the underlying methods to attain the same have been categorized to Technology and Process/People. The technology methods to be adopted includes:

- **Interoperability:** The ability of a system or a product to work with other systems or products without special effort.
- **Shared Infra:** IT Infrastructure is shared to ensure optimal utilization and effective maintenance
- **Common Applications:** The Common Applications are domain-agnostic but government-specific functionalities required and used by all departments
- **Open Standards:** The standards/protocols that are publicly available for inspection and application/system development.

The Process/People methods to be adopted includes:

- **SDG Approach:** The strategic pillars are aligned to the SDGs, the targets and indicators to be achieved would define the progress
- **Growth Agenda:** The six strategic pillars would guide the state in attaining the vision, these are termed as the growth agenda
- **Process Re-engineering:** Existing processes to be re-engineered to eliminate non-value-adds and to make the services citizen-centric / business-centric
- **Change Management:** Change management process to be undertaken to ensure that the architecture achieves its original target business value. This includes managing changes to

the architecture in a cohesive and architected way. For this purpose, a change management committee will be constituted at the state level. The change management process will determine:

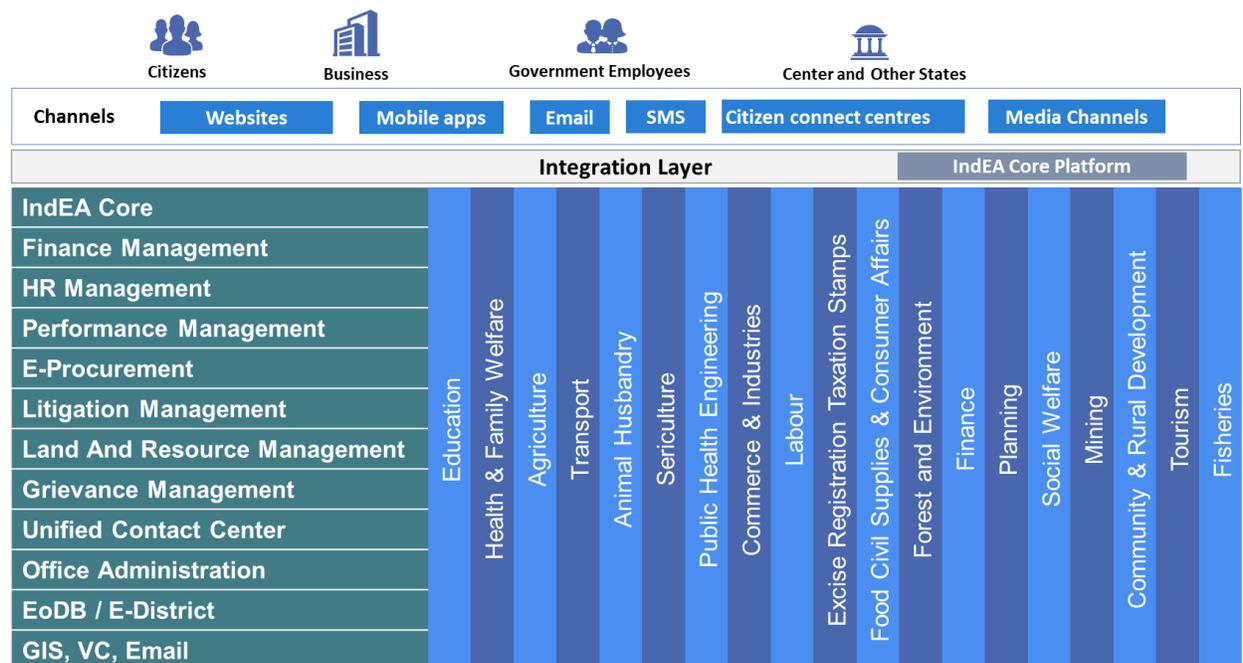
- The circumstances under which the enterprise architecture, or parts of it, will be permitted to change after deployment, and the process by which that will happen
- The circumstances under which the architecture development cycle will be initiated again to develop a new architecture

The representation provided above is indicative only and as more facts are available during the implementation of an architecture, it is possible that the original Architecture Definition and requirements may undergo a change. This document is expected to be a living document and various changes required would be undertaken through “scope changes”.

4.3 High-Level Architecture

Aligned to IndEA, the high-level architecture of the Government of Meghalaya consists of several horizontals and verticals. The 12 horizontal layers are common business functions that are extensively exercised in several government units, for a Whole-of-Government (WoG) experience, these functions need to be standardized to leverage the commonality. The 18 verticals are the government sectors of the state government.

The figure below describes the High-level Business architecture. It explains high-level Departmental services, how these services are realized through applications along with their high-level common modules. Architecture describes how government capabilities and processes are supposed to be aligned. It primarily defines the Departmental portfolio and services provided. The channels described above are the mechanism through which various stakeholders would communicate with the Government of Meghalaya.



5. Services Alignment with State Priorities

The Government of Meghalaya is committed to delivering value to the people of Meghalaya in a time-bound manner. Realization of the Government of Meghalaya’s vision 2030 “High Income State by 2030” would be attained through efficient and effective delivery of government services. In-lines with the priority areas, the Government of Meghalaya has strategized 6 growth pillars to attain the vision.

The section 2 of the document elaborates on how the Meghalaya Government’s progress to the vision can be measured with help the indicators derived from sustainable development goals. Further to this, the details below illustrate the way strategy would be implemented through alignment of identified services for each pillar and its associated departments/ directorates. A detailed list of services is provided in the Annexure. The subsequent tables below represent the number of services aligned with the overall vision and strategy for each department with the qualification of these based on G2C, G2B, G2G and based on their type like informational and transactional, etc. The number available online and offline is also identified.

The service list is a representation of the current state, this list would be further rationalized and consolidated to derive the final service list of Government of Meghalaya

 P1: Human Development	Services Linked: 202
 P2: Infrastructure Development	Services Linked: 83
 P3: Primary Sector Development	Services Linked: 64
 P4: Entrepreneurship	Services Linked: 35
 P5: Environment Sustainability	Services Linked: 40
 P6: Governance	Services Linked: 24

P1: Human Development (1/2) Services Linked: 202
 Human Development includes education, skilling and health care facilities for holistic enhancement of human resource quality and standard of living

Primary Department	Service Count	G2C	G2B	G2G	G2E	Information	Transactional	Online	Offline
1 Education	86	39	4	17	26	44	42	7	79
2 Health & Family Welfare	38	15	23	0	0	1	37	5	33
3 Home	1	1	0	0	0	0	1	0	1
4 IT & C	3	1	0	2	0	3	0	0	3
5 Labour	4	4	0	0	0	2	2	0	4
6 Personnel	1	0	0	0	1	1	0	0	1
7 Planning	2	2	0	0	0	1	1	1	1
8 Sericulture	7	5	0	0	2	7	0	0	7
9 Social Welfare	25	15	7	1	2	3	22	7	18
10 Soil & Water Conservation	2	2	0	0	0	2	0	0	2

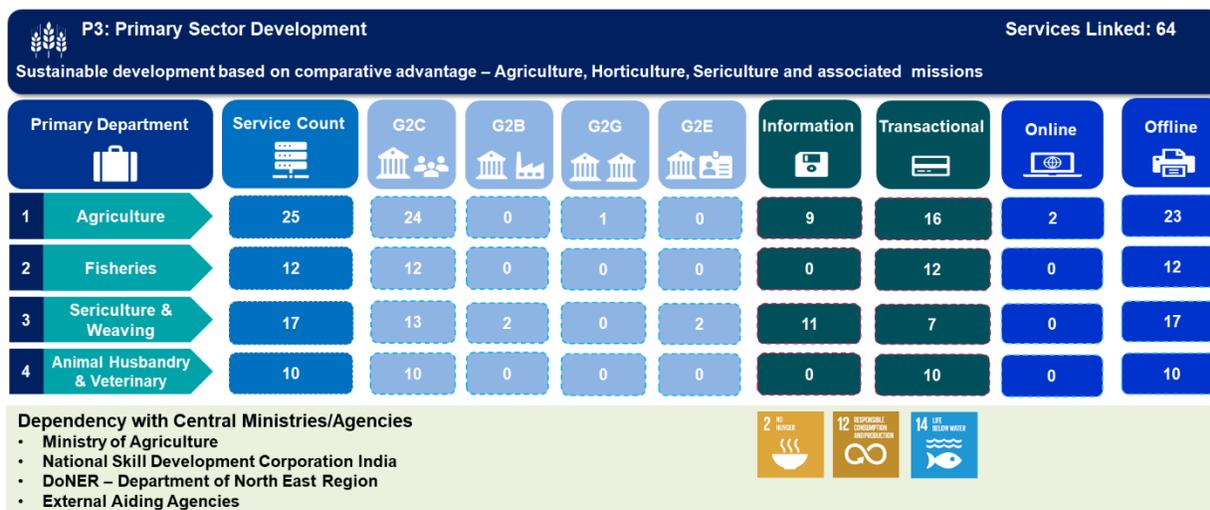
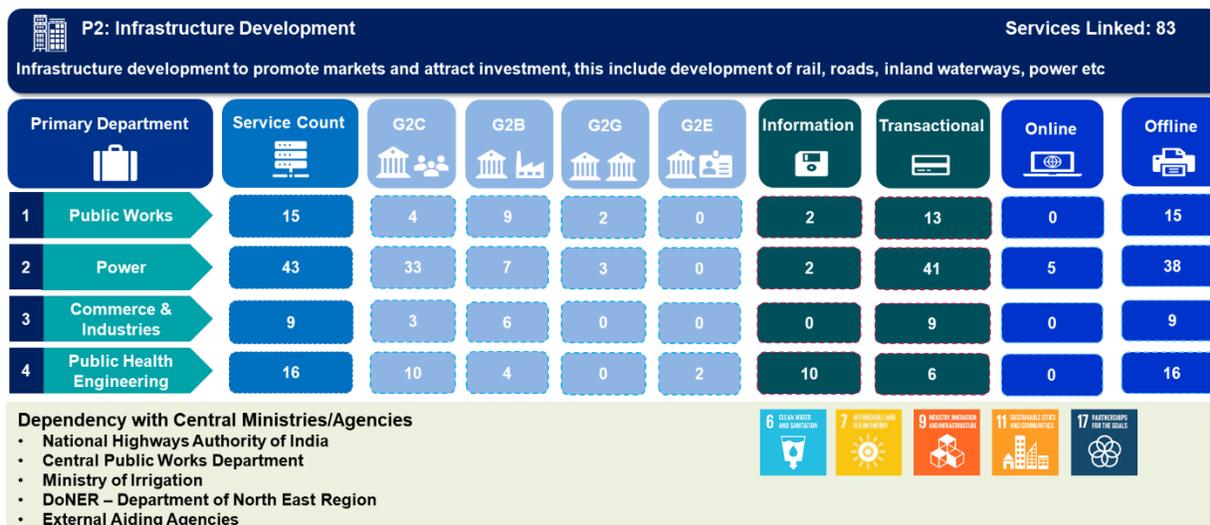
P1: Human Development (2/2) Services Linked: 202
 Human Development includes education, skilling and health care facilities for holistic enhancement of human resource quality and standard of living

Primary Department	Service Count	G2C	G2B	G2G	G2E	Information	Transactional	Online	Offline
1 Agriculture	6	6	0	0	0	3	3	0	6
2 Animal Husbandry	1	1	0	0	0	1	0	0	1
3 Arts & Culture	3	2	1	0	0	0	3	0	3
4 CMO	3	3	0	0	0	0	3	0	3
5 Civil Defense	1	1	0	0	0	1	0	0	1
6 Commerce & Industry	4	2	2	0	0	0	4	0	4
7 C & RD	15	2	5	8	0	8	7	0	15

Dependency with Central Ministries/Agencies

- UIDAI
- National Skill Development Corporation India
- Ministry of Health
- DoNER – Department of North East Region
- External Aiding Agencies





P4: Entrepreneurship Services Linked: 35

Expansion of trade and investment opportunity that includes setting up incubation center and promoting start-ups

Primary Department	Service Count	G2C	G2B	G2G	G2E	Information	Transactional	Online	Offline
1 Commerce & Industry	6	2	4	0	0	0	6	1	5
2 Community & Rural Development	6	4	2	0	0	0	6	0	6
3 Fisheries	3	3	0	0	0	0	3	0	3
4 Planning	6	2	0	4	0	6	0	1	5
5 Social Welfare	5	1	4	0	0	0	5	3	2
6 Agriculture	5	5	0	0	0	0	5	5	0
7 Animal Husbandry & Veterinary	4	4	0	0	0	0	4	0	4

Dependency with Central Ministries/Agencies

- Ministry of Commerce
- Department of Industrial Policy and Promotion
- Startup India



P5: Environment Sustainability Services Linked: 40

Sustainable development thereby protecting our environment

Primary Department	Service Count	G2C	G2B	G2G	G2E	Information	Transactional	Online	Offline
1 Forest & Environment	14	6	8	0	0	0	14	1	13
2 Soil & Water Conservation	9	9	0	0	0	9	0	0	9
3 Urban Affairs	16	11	0	3	2	15	1	0	16
4 Water Resources	1	0	0	0	1	1	0	0	1

Dependency with Central Ministries/Agencies

- Ministry of Environment & Forest, Government of India
- DoNER – Department of North East Region
- External Aiding Agencies



P6: Governance		Services Linked: 24							
Empowerment of the people through participatory planning and inclusive governance									
Primary Department	Service Count	G2C	G2B	G2G	G2E	Information	Transactional	Online	Offline
1 Agriculture	1	1	0	0	0	0	1	0	1
2 Boarder Area Development	1	1	0	0	0	0	1	1	0
3 CM office	3	3	0	0	0	0	3	0	3
4 Community & Rural Development	2	2	0	0	0	0	2	0	2
5 Education	9	4	1	1	3	2	7	0	9
6 Finance	3	0	0	0	3	1	2	1	2
7 Planning	2	0	0	0	2	0	2	0	2
8 Secretariat Administration	3	0	0	3	0	2	1	0	3

Dependency with Central Ministries/Agencies
 • Not Applicable

The services would be further analyzed, re-engineered and enhanced. MeghEA would further classify services under the following categories:

- **Core services** – These services are usually commodities by nature and would be used by all departments of the Government of Meghalaya.
- **Common Service** – These services would be standardized by the Whole-of-Government rules and regulations, used by all departments.
- **Group Services** – These services would be used by multiple departments but not by all.
- **Department services** – These are department and directorate specific services.

6. MeghEA Scope and Plan

6.1 Scope of Project

The Government of India has notified IndEA for standardizing and optimizing the e-Governance initiatives and service delivery in the states and central government agencies. The introduction of EA is aimed to enhance government service delivery and internal government operations using integrated paradigms for the departments and corresponding directorates.

Enterprise architecture is typically driven by the business vision and expected outcomes. Meghalaya has defined its vision to become a “High Income State by 2030 and has defined six strategic pillars aligned to the growth agenda to achieve the vision.

The MeghEA team initialized the project and conducted various meetings with key departments which are listed as below:

- Planning Department
- Finance Department
- Agriculture Department
- Education Department
- Health and Family Welfare Department
- Social Welfare Department
- Animal Husbandry Department
- Commerce and Industries Department
- Community and Rural Development Department
- Excise Registration Tax and Stamps Department
- Fisheries Department
- Food and Civil Supplies and Consumer Affairs Department
- Forest Department
- Labour Department
- Mining Department
- Public Health Engineering Department
- Sericulture Department
- Transport Department
- Tourism Department

The team further conducted interviews and meetings with the identified nodal officers for the key departments and shared questionnaires to get the data related to Vision, Mission, Goals, Challenges, Office Locations, Roles/ Responsibilities, etc. The team further connected to senior management of the Planning Department to understand the vision of the state and the Honorable Chief Minister’s directives.

The vision and mission were derived basis of discussions and presented to the Project Coordination Committee, Steering Committee and Leadership Committee subsequently. The senior leadership of the Government of Meghalaya has agreed to the MeghEA Vision and Mission. The MeghEA team would further move forward in the next phase of activities i.e. defining the detailed architecture for MeghEA

The high-level scope and plan for the next phases of MeghEA is as below:

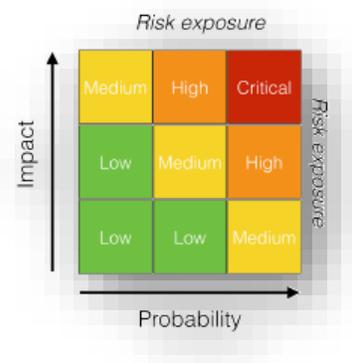
Scope of Activities	Timeline
Government Service Assessment	Dec-2019
Identification of departments and their corresponding directorate's services	
Defining the future state service process	
Systems and Data Assessment	Dec-2019
Assessment of current systems and data	
Define strategy for technology modernization	
Future state system portfolio and data strategy	
Finance Department – Solutioning	Dec-2019
Planning & Implementation Specification	
Whole-of-Government Implementation Strategy	Apr-2020
Specifications and budgetary requirements	
Roadmap	
Finance Department Implementation	Jul-2020
Architecture Implementation for Finance Department	

6.2 Risks

Given that the MeghEA project is a first of its kind in the country, it is imperative that various project risks be identified upfront and a proper plan for mitigation be adopted by the state government. A holistic approach to risk management enables the Government of Meghalaya to consider the potential impact of all types of risks on all processes, activities, stakeholders, applications and services, implementing a comprehensive approach.

The MeghEA project would follow a risk management framework, that would guide the risk assessment and classification of risks. The exposure to a given risk is estimated using the risk matrix which is arrived based on the probability of occurrence of an event as well as the impact of occurrence. Both these parameters are classified into Low, Medium and High to arrive at the overall risk exposure.

The following table lists potential project risks identified along with their probable mitigating action:



S. No.	Risk Description	Impact	Mitigation plan
1	Awareness about the MeghEA & Whole-of-Government strategy among departments and corresponding directorates' teams.	H	Stakeholder engagement at every stage and undertaking awareness building sessions and Capacity enhancement trainings and certifications.
2	Knowledge on Inter-department dependencies at various levels (at Departments, Directorates and various units' level) for service delivery	M	Detailed assessment of inter-dependencies on service processes and Whole-of-Government approach to tackle the impact
3	Complete details of foundational capabilities running within and across departments and corresponding directorates	M	Communication with various stakeholders of the department and directorates to understand conflicting foundational capabilities and take appropriate mitigation action
4	Availability of documentation on business processes at the department, directorate and unit level. Business processes are not streamlined or standardized across individual departments as officials from various units adopted ad-hoc changes or Non – standard practices	H	Government of Meghalaya/ NIC to assign the task of proper documentation to concerned nodal officers
5	Communication process in sharing the	H	Early involvement of nodal officers

S. No.	Risk Description	Impact	Mitigation plan
	business information in time bound manner		
6	Easy adoption of change management procedures and processes	M	Top leadership buy-in and push from their side
7	Reluctance among service delivery teams involved in adopting the new technologies.	H	Awareness building
8	Approval on finalized workflow and later optimization of workflow for business process	C	Approving authorities' participation and timely meetings

C-Critical Risk, H-High Risk, M-Medium Risk and L-Low Risk

6.3 Challenges

MeghEA is planned to facilitate the government through service delivery enhancement, however, in the context of Meghalaya, there are certain key-challenges that need to be addressed to enable intended value from enterprise architecture. The following are the key challenges identified along with support required for mitigating them:

S. No.	Challenge	Support Required
1	Internet connectivity in Meghalaya is not adequate	Strategy to improve Internet connectivity by seeking support from the Government of India
2	Penetration of Aadhaar is very low in the state	Radical push to ensure most of the citizens have a uniform identification
3	Lack of Digital Literacy among citizens	State needs to further promote and increase digital literacy to ensure citizens, employees and business can avail digital services

6.4 High-Level Communication Plan Matrix

The following is an overview of various committees required for the project, their composition, key tasks and meeting schedule:

	What	When	Who
Leadership Committee headed by the Hon'ble Chief Minister, Government of Meghalaya	<ul style="list-style-type: none"> Provide vision & strategic direction Approve and own Meghalaya Enterprise Architecture Project 	Quarterly	<ul style="list-style-type: none"> Hon'ble MICs for IT&C, Home (Police), H&FW, Agriculture, Revenue & Disaster Management, Tourism Chief Secretary President & CEO NeGD DG NIC ACS, Finance Dept. Representative from MDoNER etc.
Steering Committee headed by the Chief Secretary, Government of Meghalaya	<ul style="list-style-type: none"> Provide guidance & direction for MeghEA blueprint preparation & implementation Periodic review of physical and financial progress 	Monthly	<ul style="list-style-type: none"> ACS, Social Welfare Dept. ACS, Finance Department President & CEO NeGD Principal Secretary, Education Commr. & Secretary, Planning, Senior DDG NIC SIO NIC
Project Coordination Committee headed by Commissioner & Secretary, Planning	<ul style="list-style-type: none"> Ensure quality & timely completion of project activities Obtain deliverable sign-off 	Fortnightly	<ul style="list-style-type: none"> Secretary, IT&C Secretary, Finance AS, Planning/ Finance Secretary GAD Secretary Law Dept. SIO, NIC STD NIC etc.
Project core team	<ul style="list-style-type: none"> Undertake day-to-day project activities Ensure quality & timely completion of project activities 	Weekly	<ul style="list-style-type: none"> SIO, NIC Meghalaya Joint Secretary cum OSD, Planning Department, Technical Director, NIC Two representatives from NeGD KPMG team

The Leadership Committee, Steering Committee and the Project Coordination Committee has already been formed by the Government of Meghalaya as per the government notifications dated 10th July 2019. In addition to the above, it is proposed that a notification regarding the "Project core team" be issued. In addition to the above, the other stakeholders are departments and their corresponding directorates, citizens, businesses and employees. It's very important to keep the stakeholders involved and informed. The communication plays a vital role in making MeghEA a success. To ensure that, it's very important to choose the right communication mode and the right interval based on the roles and responsibilities of the stakeholders. The communication plan matrix involving all stakeholders is as below:

Sl. No	Stakeholder Group	Communication Mode	Involvement required
1	Leadership Committee	In-person	<ul style="list-style-type: none"> Provide directions to ensure the project's continued alignment to strategic and business objective Key decisions for ratification Key Risks and Issues
2	Steering Committee	In-person	<ul style="list-style-type: none"> Provide key decisions required Resolve design team escalations Assessment of deployment plans and readiness assessments Coordination with MeitY and issue directives to various departments in Government of Meghalaya Review change control log – Scope, Time and Cost

Sl. No	Stakeholder Group	Communication Mode	Involvement required
3	Project Coordination Committee	In-person/ Video Conference	<ul style="list-style-type: none"> • Accomplishments for the reporting period • Planned activity for the next reporting period • Work stream status – issues/ risks requiring support and decisions • Programme risk and issue status
4	Project Core Team	In-person/ Video Conference/ Telephone calls	<ul style="list-style-type: none"> • Take inputs from departments, nodal officers and senior management of departments and their corresponding directorates • Work towards the success of the project • Management of project timelines • Keep a check on project progress • Coordinating and aligning departments for sharing required data and inputs with Project Team
5	Departments/ Directorates	Interviews/ Presentations/ Emails	<ul style="list-style-type: none"> • Understand the vision and mission of MeghEA • Building capacity in the department officials and directorates • Respond to Questionnaires, providing inputs for MeghEA Business Architecture
6	Employees, Citizens and Businesses	Social Media	<ul style="list-style-type: none"> • Follow the progress of MeghEA through Social Media, Newsletters, Radio jingles and Videos • Active participation in MeghEA journey

Further, the below factors need to be kept in mind for the critical success of the project:

1. Effective communication of MeghEA Vision to all stakeholders as per the plan above.
2. Periodic review of Targets set against the Key Indicators.
3. Timely Service Portfolio finalization and recording by the departments.
4. Discovery of the department's integration with other departments.
5. Access to information related to applications, systems, data, technology and infrastructure.
6. Create institutional arrangements, organizational structures, roles and responsibilities, policies and agreements to make the integrated government work.

7. Way Forward

MeghEA intends to transform the Government of Meghalaya to a unit that delivers services as ONE Government to all its stakeholders. MeghEA has derived a set of indicators that would measure the progress of the departments towards achieving their targets, it has also identified the need to transform the government to enable the Government of Meghalaya to reach its vision. Transforming government would impact all its services, underlying processes, technology and information. MeghEA intends to assess the current state of government's services and envisioned a future that is aligned to the vision, a future that would drive Meghalaya's growth agenda to become a "High Income State by 2030". The envisioned future state of services would be the basis of understanding technology and information flow need.

In the next few months MeghEA team intends to perform the following activities:

- **Align strategy to indicators:** Set interim targets for all key indicators to measure the progress of the implementation of the Government of Meghalaya's strategy.
Support Required: Senior stakeholders from departments, that have been assigned primary responsibility needs to finalize interim targets to each indicator specified in Section 2 of the report
- **Government Service Assessment:** Assess government services and underlying processes to derive a future state aligned to the vision
Support Required: All departments need to provide their portfolio of services, underlying processes under each service and other associated service details
- **System and Data Assessment:** Understand technology needs and information flow to facilitate service delivery
Support Required: Department's technology support unit with the help of NIC Meghalaya needs to provide details on the systems supporting the services, information used in the systems and associated technology infrastructure
- **Finance Department Solutioning:** Derive solution plan for the finance department to ensure integrated financial management of all departments and agencies within the government
Support Required: The finance department needs to provide details on services, processes, systems and technology infrastructure. The future state integration requirement envisaged in financial management would also be discussed and deliberated
- **Whole of Government Implementation Strategy:** Derive a strategy aligned to prioritized needs of the departments and state's vision, that encompasses implementation planning, budgetary requirements and change management
Support Required: Basis of the future state derived by MeghEA, departments need to provide inputs on the strategy and arrive at a consensus on the plan of action
- **Finance Department Implementation:** The solution derived in the previous stages, is planned for pilot implementation in the Finance department.
Support Required: MeghEA team with the support of NIC Meghalaya would implement the defined architecture to ensure benefits envisaged are realized

The relevant timelines and underlying activities for each of the above activities have been provided in Section 6 of the report.

MeghEA team would require support and inputs in every stage of the program, to make it a success, it would also require close interaction and support from various stakeholders. **Timely and accurate response** from departments is required to capture the current state details and arrive at the strategy. Apart from the above support, MeghEA team would also need support from:

- **Departments Leadership:** To validate the planned strategy on its alignment to the business need and direct relevant stakeholders to provide necessary details in the required timeframe
- **Project Coordination Committee, Steering Committee and Leadership Committee:** To provide guidance, feedback and support required to help MeghEA team arrive at a success
- **NeGD:** Timely feedback and availability of artefacts
- **NIC Meghalaya:** Continued support in coordination and in data gathering. NIC Meghalaya's support and facilitation in data gathering, coordination and providing necessary inputs have been key to the current milestone. Such continued support from NIC Meghalaya would enable MeghEA team to achieve its future milestones

Creating **awareness** about the value of enterprise architecture and **building capacities of the government officials** in the Enterprise Architecture domain are pre-requisites for realize success. Nodal officers from all the departments need to take charge and start sensitization within respective departments.

Thank you



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