

Introduction on NEC Healthcare solution

Healthcare and Life Science Division
Global Innovation Business Unit
NEC Corporation

NEC at a Glance

Establishment

Longstanding relationships of trust with customers



1899

Technological capabilities

Face recognition *1
Fingerprint recognition *2
Iris recognition *2

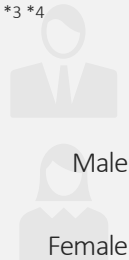


Global No.1

Ratio of male and female hires

*3 *4


Male 72.9 %
Female 27.1 %



Ratio of female managers

*5

9.6 %

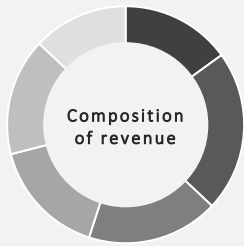


Revenue

*8

Composition of revenue

Public Solutions Business	13.8%
Public Infrastructure Business	19.6%
Enterprise Business	18.5%
Network Services Business	16.4%
Global Business	17.7%
Others	14.0%

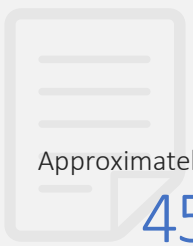


3,313.0 billion yen

Number of patents

*5


Approximately 45,000



R&D expenses

*4

121.4 billion yen



Ratio of employees returning after childcare leave

*3 *6

99.0 %



Ratio of employees with disabilities

*3 *7

2.39 %



Number of employees

*9

Approximately 119,000



Inclusion in the CDP Climate Change, Water Security and Supplier Engagement A List



A List

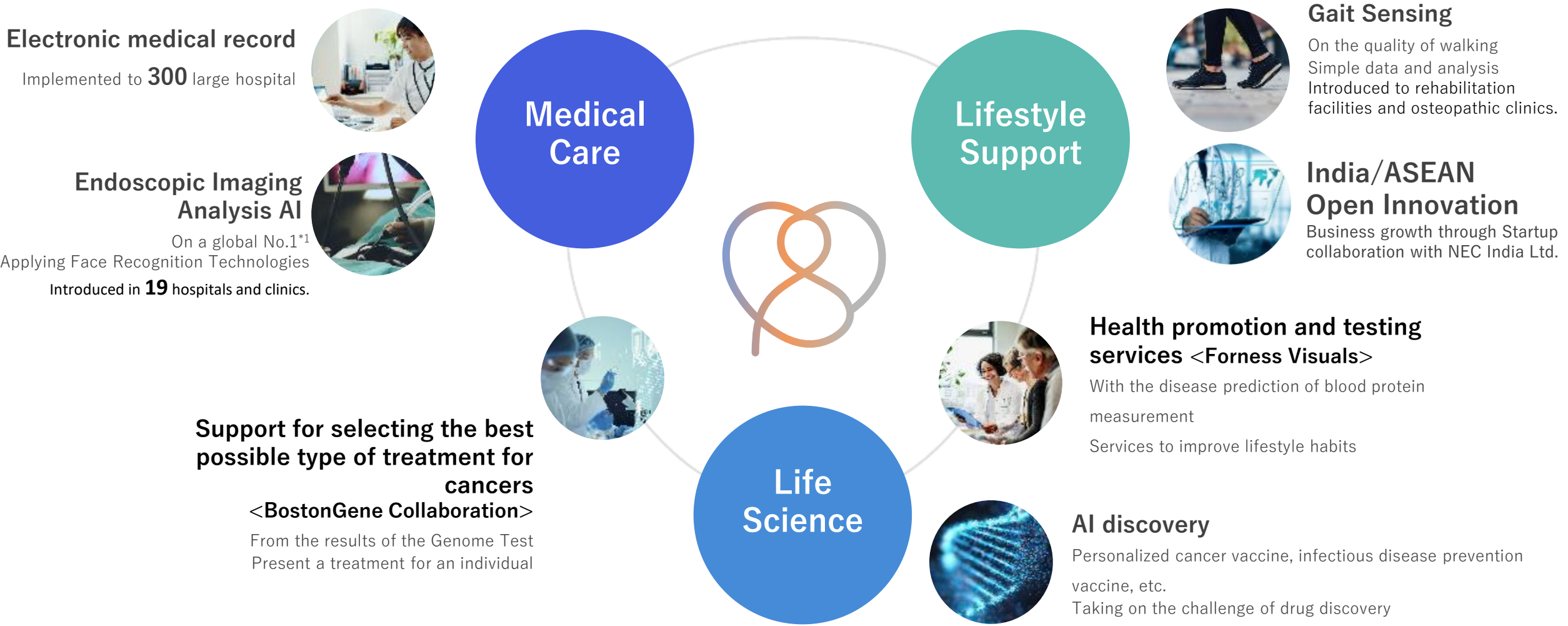
Number of cases of serious involvement with cartels and/or bid-rigging

0 cases



*1 Ranked 1st multiple times in benchmark testing held by the U.S. National Institute of Standards and Technology (NIST)
 *2 Ranked 1st in benchmark testing sponsored by the NIST
 Note: NIST testing results do not constitute an endorsement by the U.S. government of any particular system, product, service, or company.
 *3 For NEC Corporation on a standalone basis. Actual results for the fiscal year ended March 31, 2022
 *4 Actual results for the fiscal year ended March 31, 2023
 *5 As of March 31, 2022
 *6 Ratio of employees returning to work who started childcare leave in fiscal 2019
 *7 Based on the Act on Employment Promotion etc. of Persons with Disabilities as of June 1, 2022
 *8 Actual results for the fiscal year ended March 31, 2023
 *9 As of March 31, 2023

Life science business of NEC



*1 Top Face Recognition Accuracy Assessment by the National Engineering Standards Research Laboratories (NIST) since 2009

NEC Corporation India

NEC India is a 100% Subsidiary of NEC Corporation, Japan and has been present in India for more than 15 years providing Technology Solutions to Government & Enterprise both. NECI is a CMMI Level 5 Company and has been helping deliver globally for various NEC Global Customers. We have a myriad of smart healthcare solutions deployed globally that improve the quality of patient care through enhanced patient handling and enable healthcare providers to deliver the right medical treatment faster.



- **Global Branch Offices:** Tokyo, Dallas, Singapore, Melbourne
- **India Offices:** Noida, Mumbai, Bangalore, Chennai, Pune, Hyderabad, Ahmedabad, Hubli, Saharanpur, Trivandrum, Surat

 **Employees 6000+**
(across all subsidiaries)

 **Certifications**

- ISO 20K
- CMMI L5
- ISO 27001
- PCMM L3

KEY DOMAINS

Public Safety & Smart City
Healthcare | Transportation |
Unified collaboration |
logistics | Telecom |
Manufacturing

Preventive health & Shared value Platform



100% Container Visualized



Bus Rapid Transit
Ahmedabad, Surat, Hubli



KEY TECHNOLOGIES

ERP | AI & Big data
Web & mobile | Automation
IoT | DC & Cloud | Biometrics



Safe City Delhi & Surat City Police

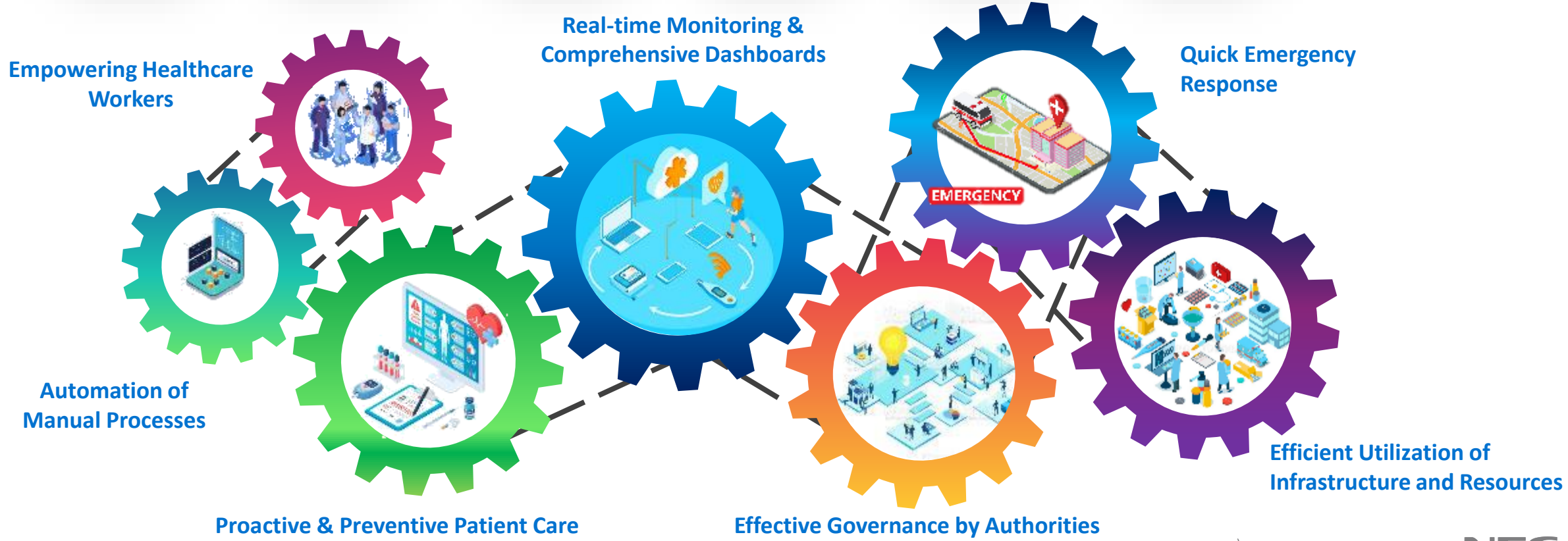
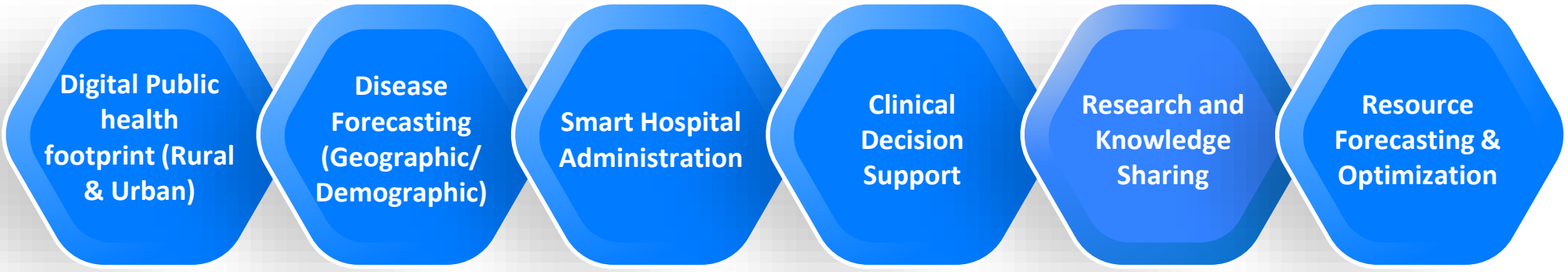


City Efficiency

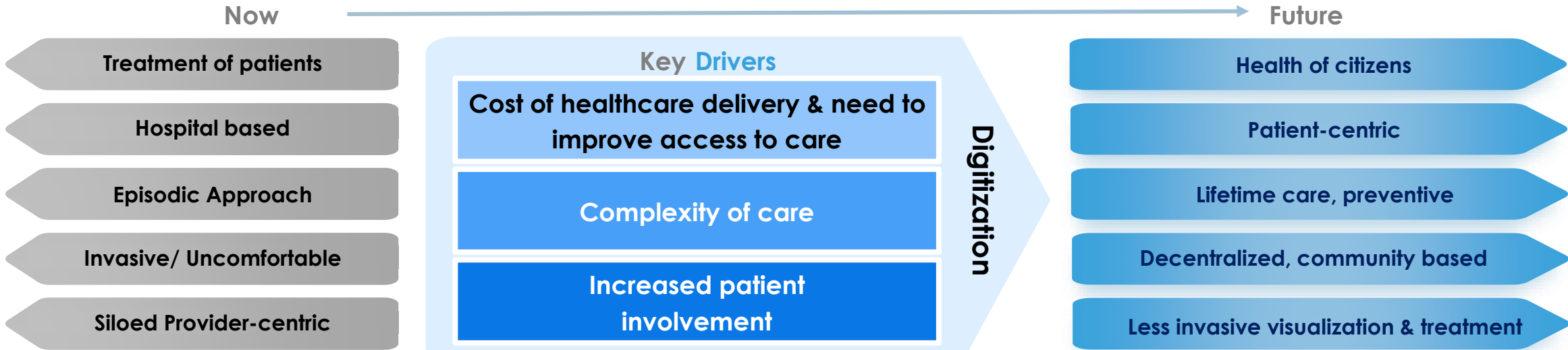


Solution Overview

Focus Areas & Envisaged Benefits



Healthcare Paradigm Transition Envisioned by NEC



INTERGRADED HIMS PLATFORM

combined with Transformative Digital health technologies

- Health Analytics/AI**
 Collection & analysis of data for patients & healthcare providers (incl. data-driven performance management and patient/ clinical pathway management, clinical decision support)
- Health information exchange (HIE)**
 Data sharing between providers to support access to patient records across health systems
- Telemedicine**
 Remote diagnosis & treatment of patients by means of telecommunications technology
- Patient engagement & Wearables**
 Utilization of digital tools to increase participation and promote positive patient behavior. Continuous vital-signs monitoring and feedback to patients and doctors using wearable devices

Healthcare Delivery Platform (HIMS Core Application & Modules)

Integration Points

Ambulance & Bedside Monitors

Modalities & DICOM Devices

Lab Equipment

Smart Card/ Barcode/ RFID Tags

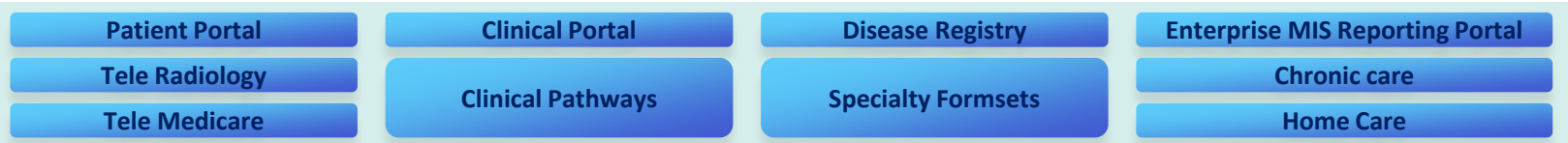
Payer/ Insurance/ TPA

BI & 3rd Party Applications

Kiosks

Pharmacy Robotics Dispenser

Histopath Stainer Dictionary



RFID: Radio Frequency Identification
 TPA: Third Party Administrator
 BI: Business Intelligence
 CPOE: Computerized Physician Order Entry
 RIS: Radiology Information System
 PRM: Patient Relationship Management

CRM: Customer Relationship Management
 ADT: Admission, Discharge, Transfer
 COA: Chart of Accounts
 PACS: Picture Archival and Communication System
 EHR: Electronic Health Record
 EMR: Electronic Medical Record

ERPs: Enterprise Resource Planning System
 HDU: High Dependency Unit
 ICU: Intensive Care Unit
 OT: Operation Theatre
 MIS: Management Information System
 eMAR: Electronic Medication Admin Record

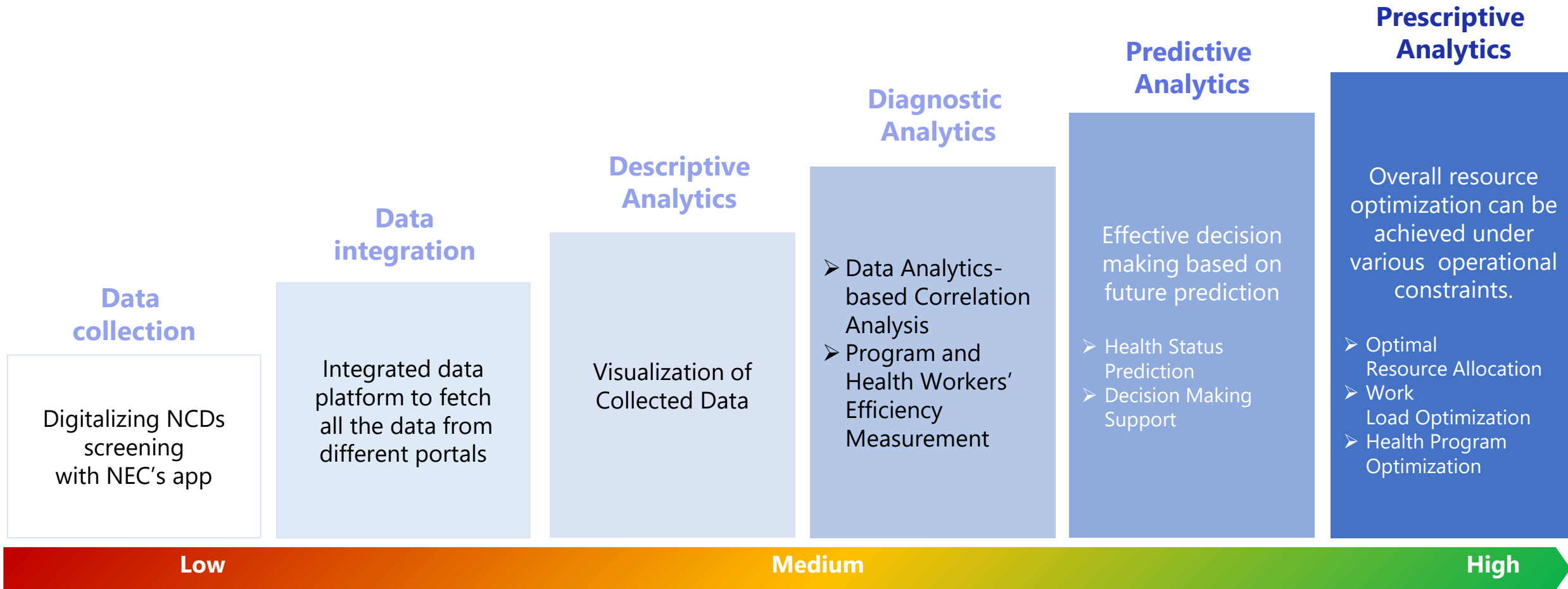
IP: In Patient
 OP: Out Patient
 CDSS: Clinical Decision Support System
 CSSD: Central Sterilization & Supply Dept.
 HR: Human Resource

Add-ons

- Medical Image Mgmt.
- Cord Blood
- Eye Bank
- Diet
- Therapy
- CSSD
- Equipment Mgmt. & Calibration
- Kitchen
- Linen & Laundry
- House Keeping
- Camp & Program Mgmt.
- Asset Mgmt.
- HR
- Financial Accounting
- Revenue Cycle Mgmt.
- A/c Receivables
- A/c Payables
- Statutory & Regulatory Compliance
- Activity Based Costing

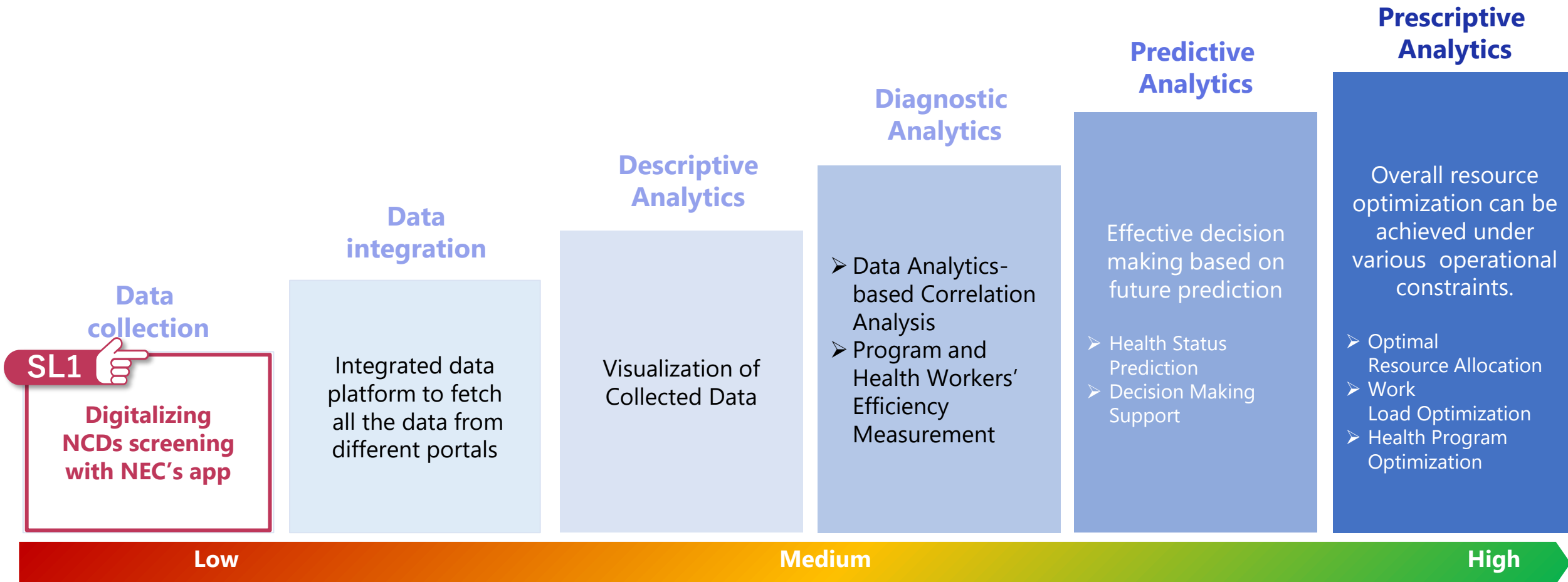
Holistic approach for data utilization

By gradually raising the level of data utilization, we contribute to people's health, efficient operations and social development



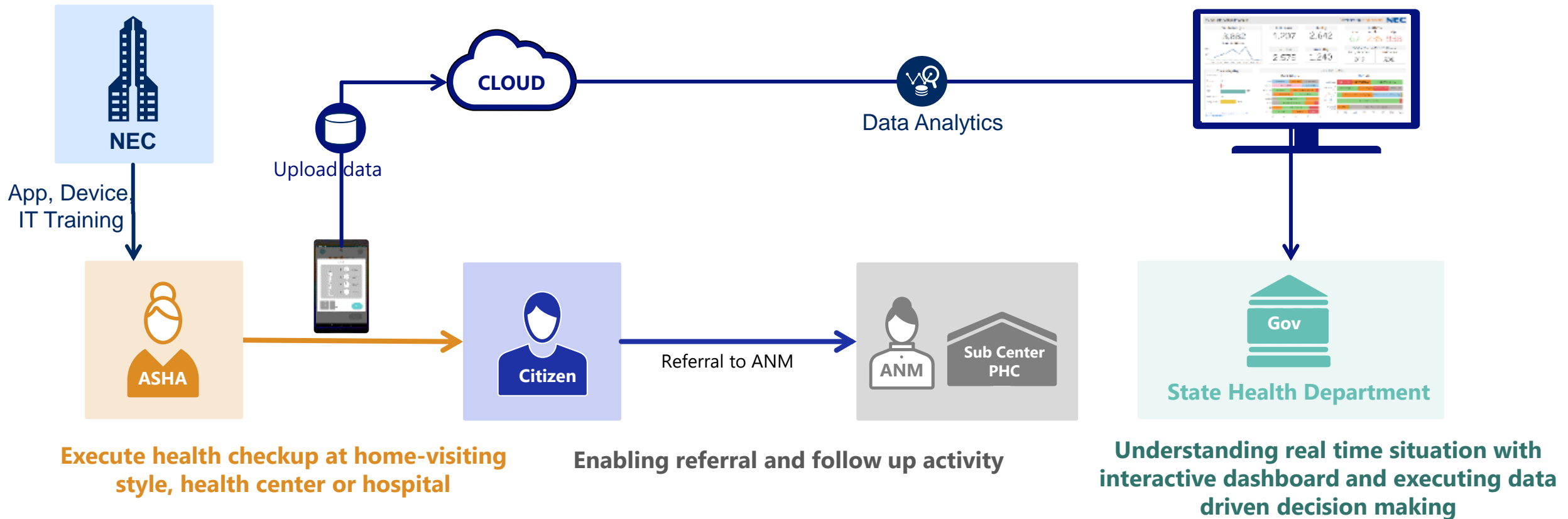
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SL1. Population Screening solution(NCD)

Assist in NCD data collection, followed by data analysis using advanced analytics techniques to enable data-driven policy decisions, real-time progress tracking & follow up with citizens



SL1. Reference: Collaboration with Government of Bihar, India

Government of Bihar and NEC partner to provide preventive health check services.

- Provided **occupational training** to **16 ASHA (Community health worker in India)**.
- **Signed MOU** with Government of Bihar to do **PoC for 2 months**.
- 16 ASHA workers provided checkup service to **4200 people in 1.5 month**.

1. ASHA Training



6th & 7th Feb 2020
(2 days)

2. MoU signing ceremony



9th Feb 2020
(1 day)

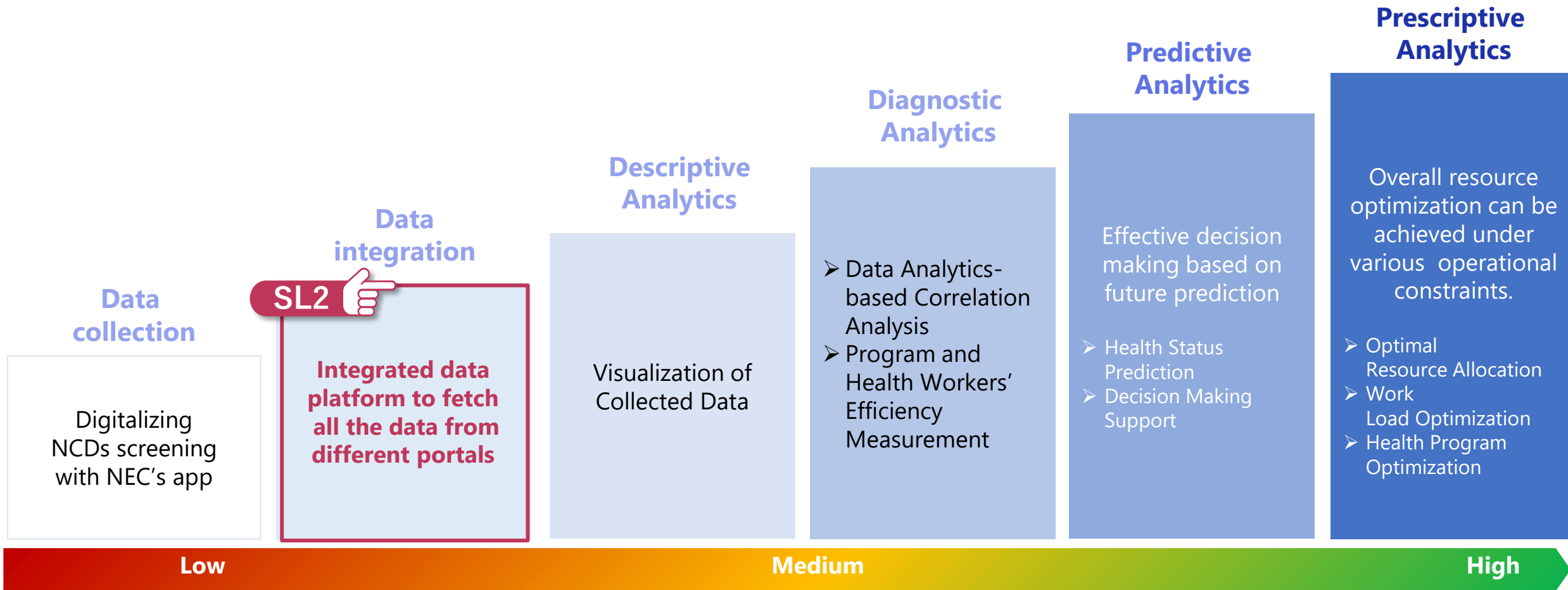
3. Actual PoC Operation



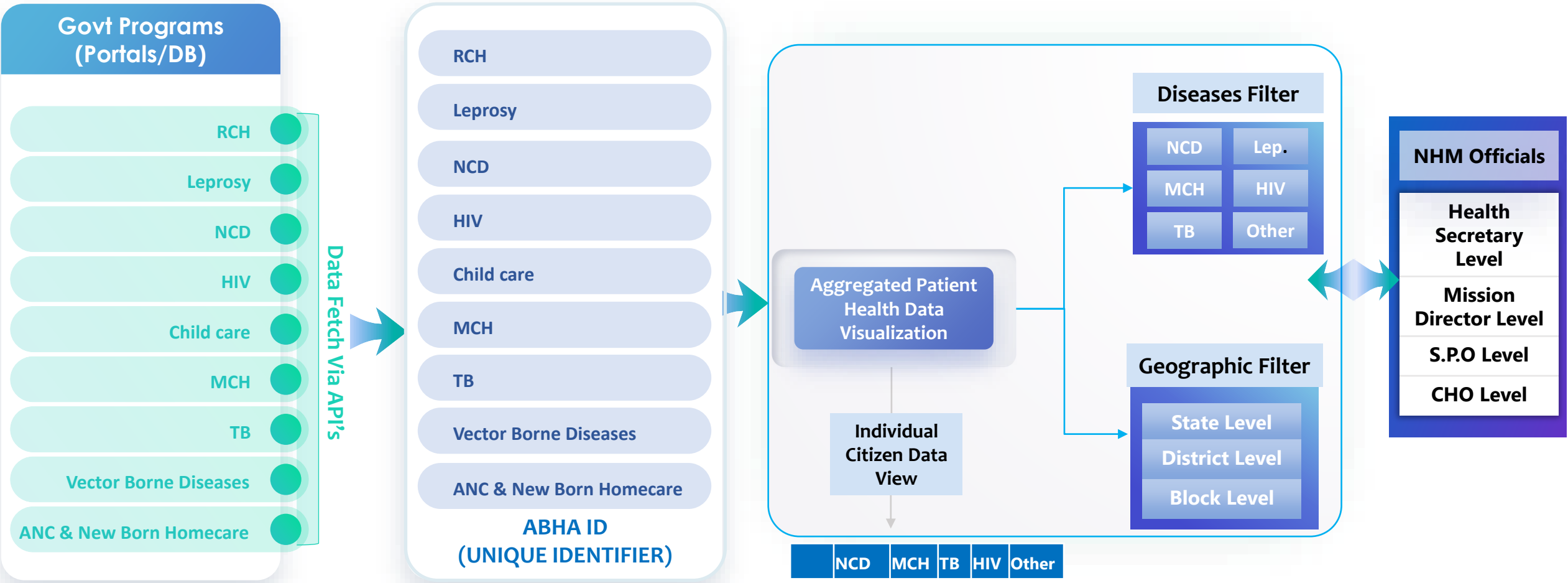
10th Feb to 25th Mar 2020
(45 days)

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SL2. Integrated Data Platform across Health programs



	NCD	MCH	TB	HIV	Other
C1					
C2					
Cn					

Our achievement in Japanese HIMS industry



Number of hospitals

268 *As of April 2021

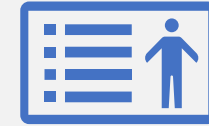
We mainly implement HIMS
in large-scale hospital with 600+
beds in Japan



Number of Doctors

50K *As of April 2021

We have gathered many insightful
feedbacks from doctors
to make better HIMS product



More than

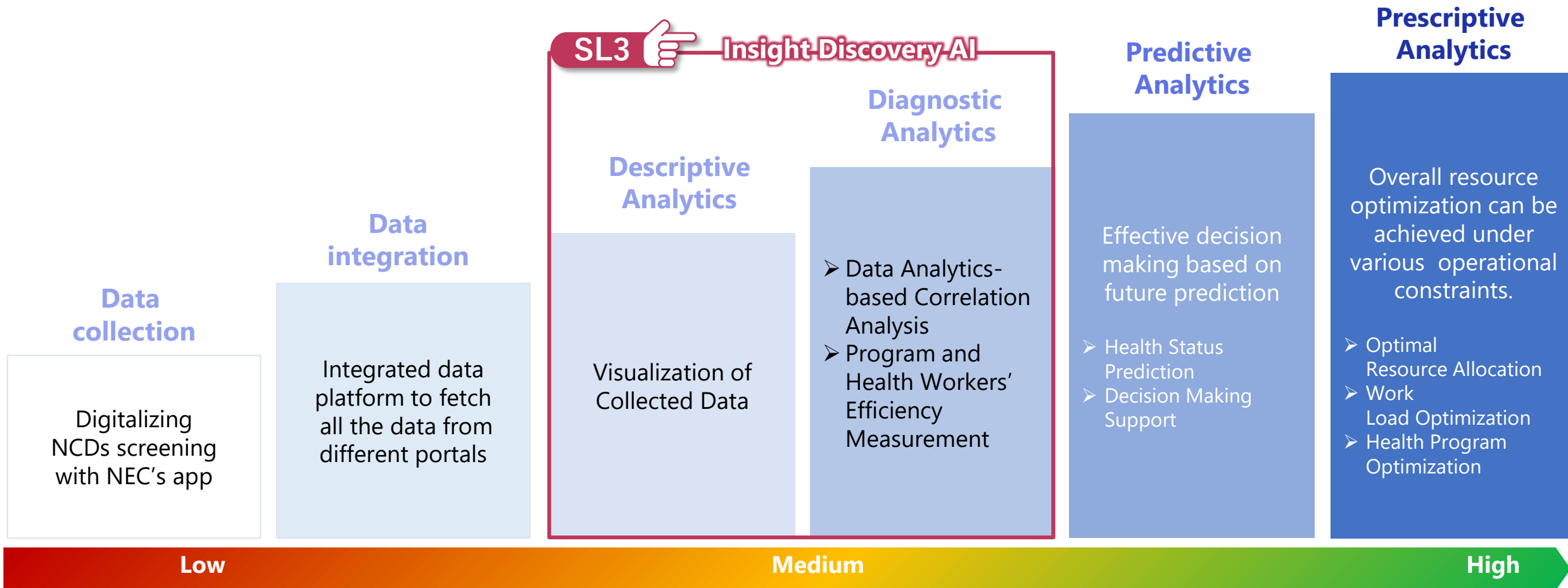
50 years

of experience

We continue to contribute to DX in
the healthcare domain on the
strength of AI technology

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SL3. Insight Discovery AI

AI automatically visualizes and evaluates data characteristics to create analysis summaries. Also, it facilitates cost-effective analysis without relying on personal experience or knowledge.

Auto Visualization and hypothesis validation

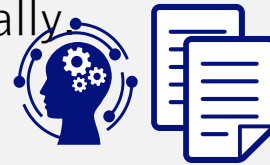
AI performs data-driven analysis

Automatically discover insights in the data.



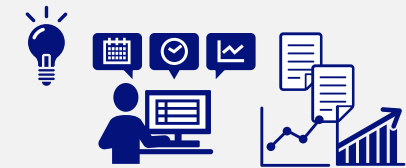
Summarize the results of the validation

Verbalize the insights obtained from the data and generate analysis summaries automatically.



Action planning

Consideration of action plans based on insights and verbalized summaries generated automatically by AI.

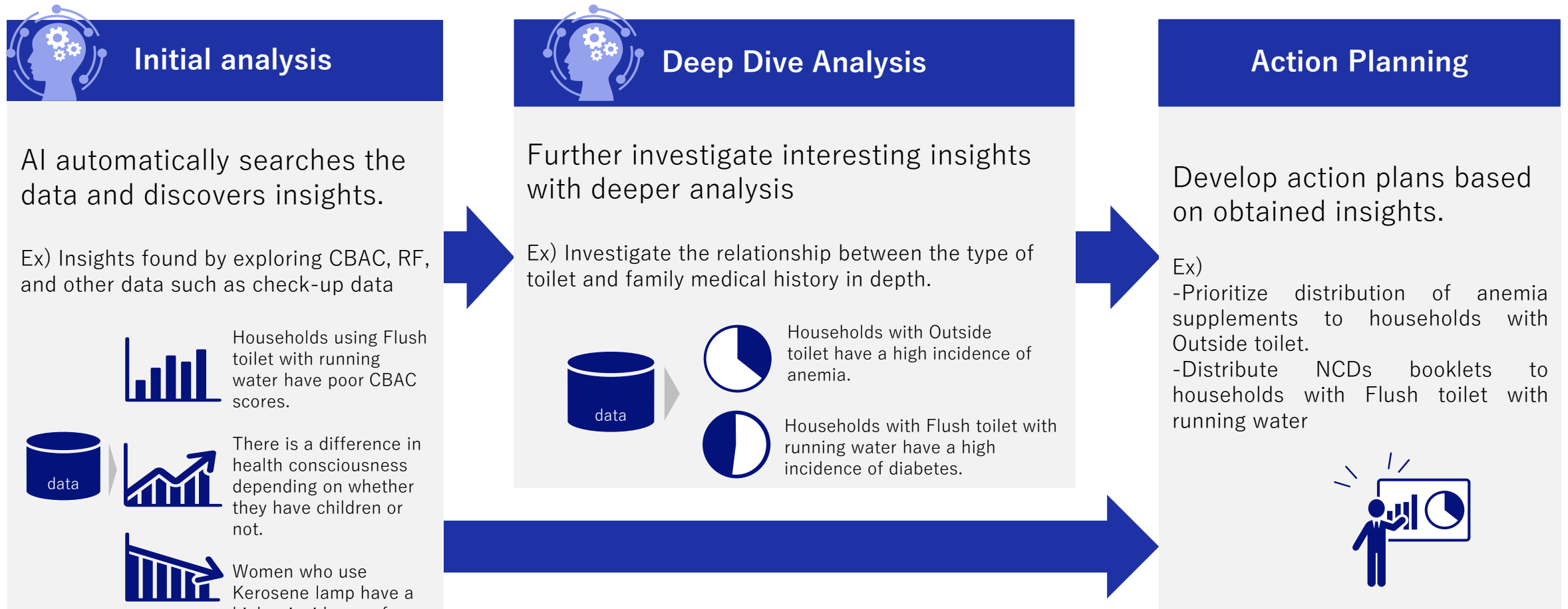


Through AI's automatic insight search capabilities, AI reduces the workload in the hypothesis, analysis/visualization, and verification cycle.

AI can automatically discover and verbalize the insights from the entire dataset, enabling examination of action plans from new perspectives.

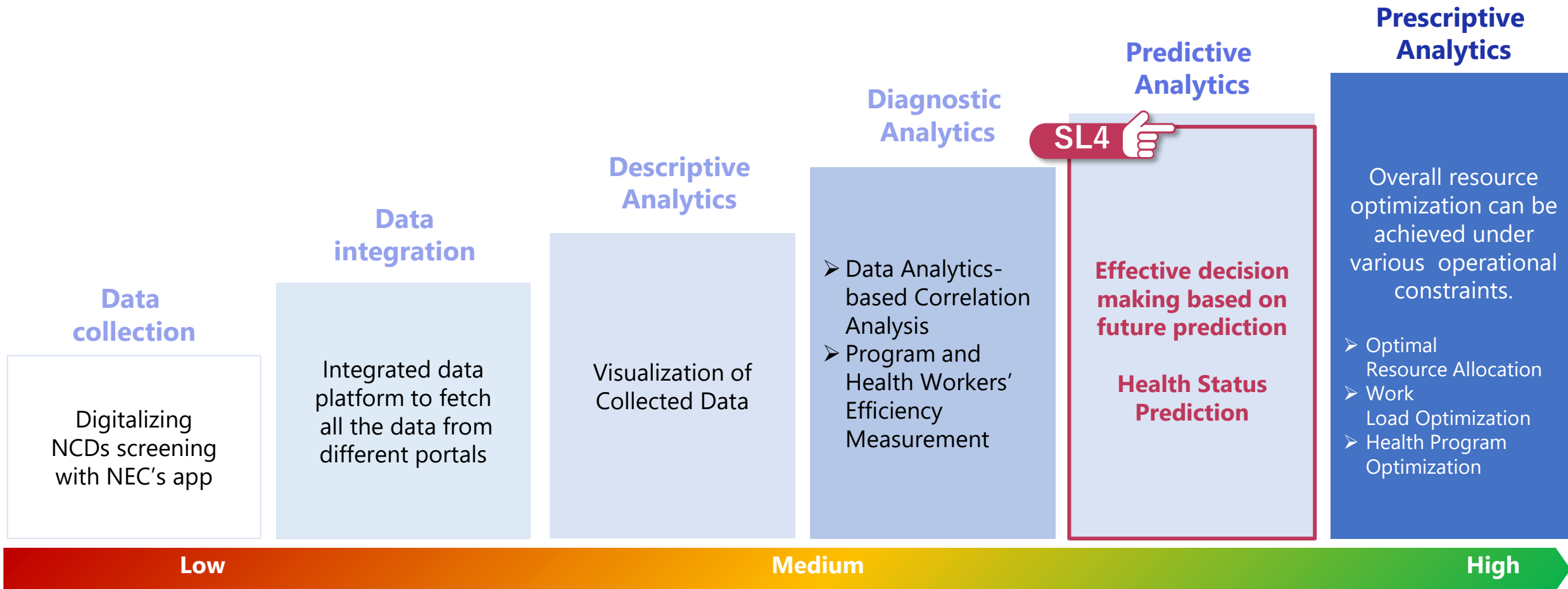
SL3. Insight Discovery AI (Use-case for state government)

Discover insights from the collected data using AI and utilize them to evaluate healthcare policies.



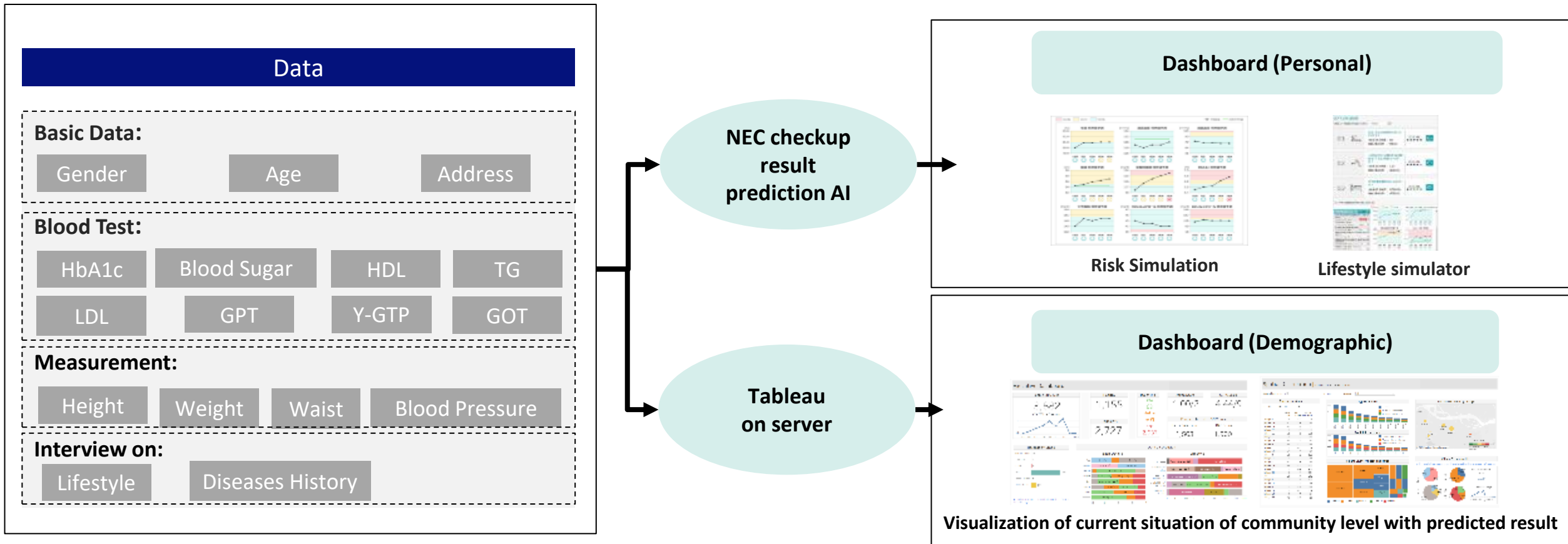
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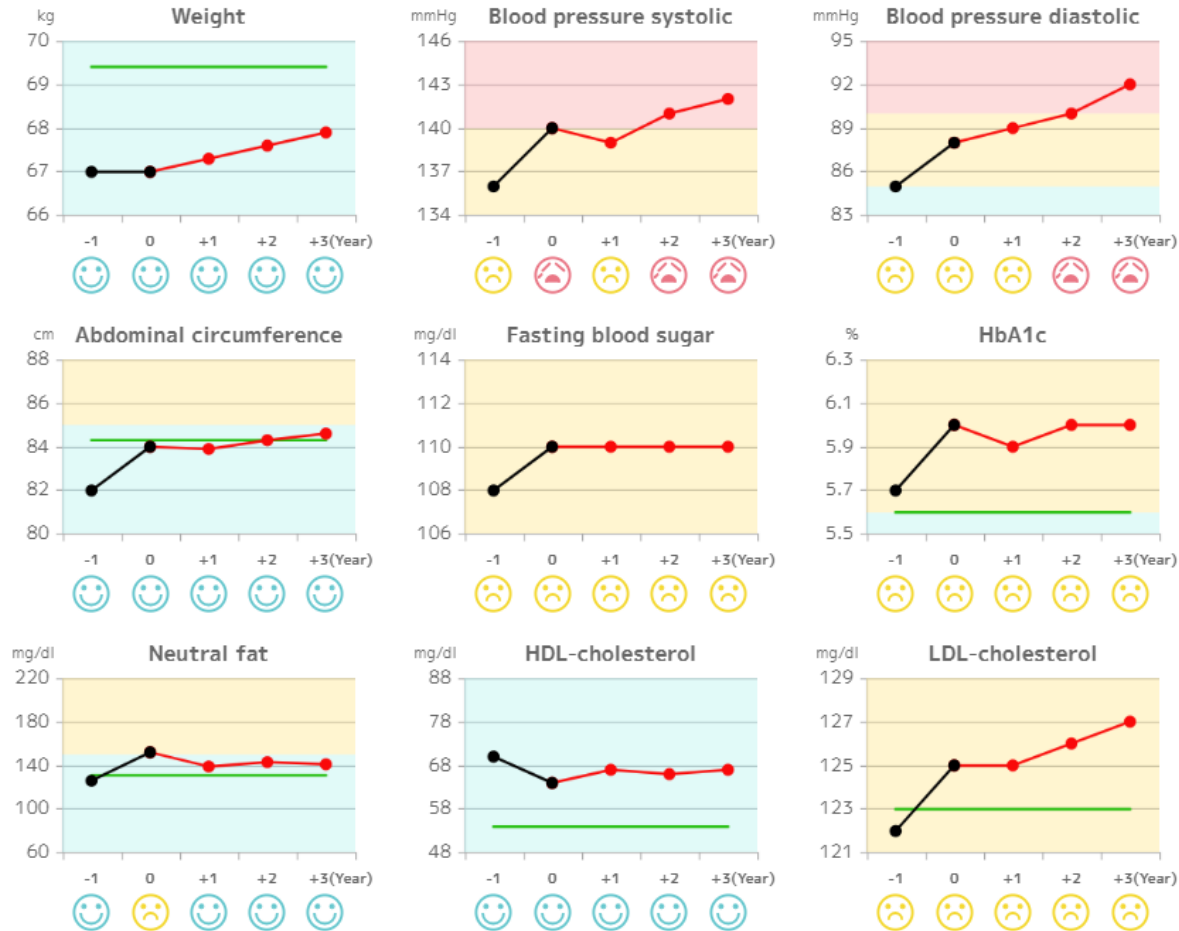
SL4. Health status prediction

Comprehensive dashboards will be delivered, facilitating easy data analysis and enabling the creation of an effective policy framework.

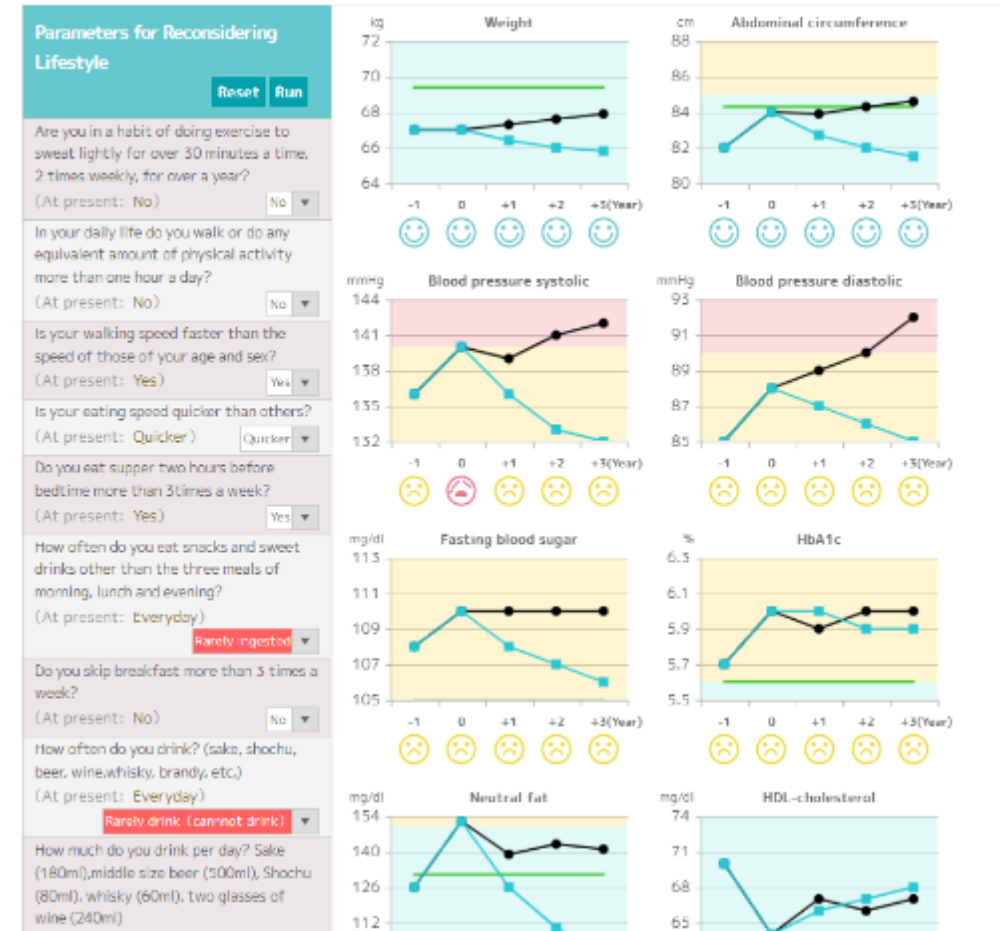


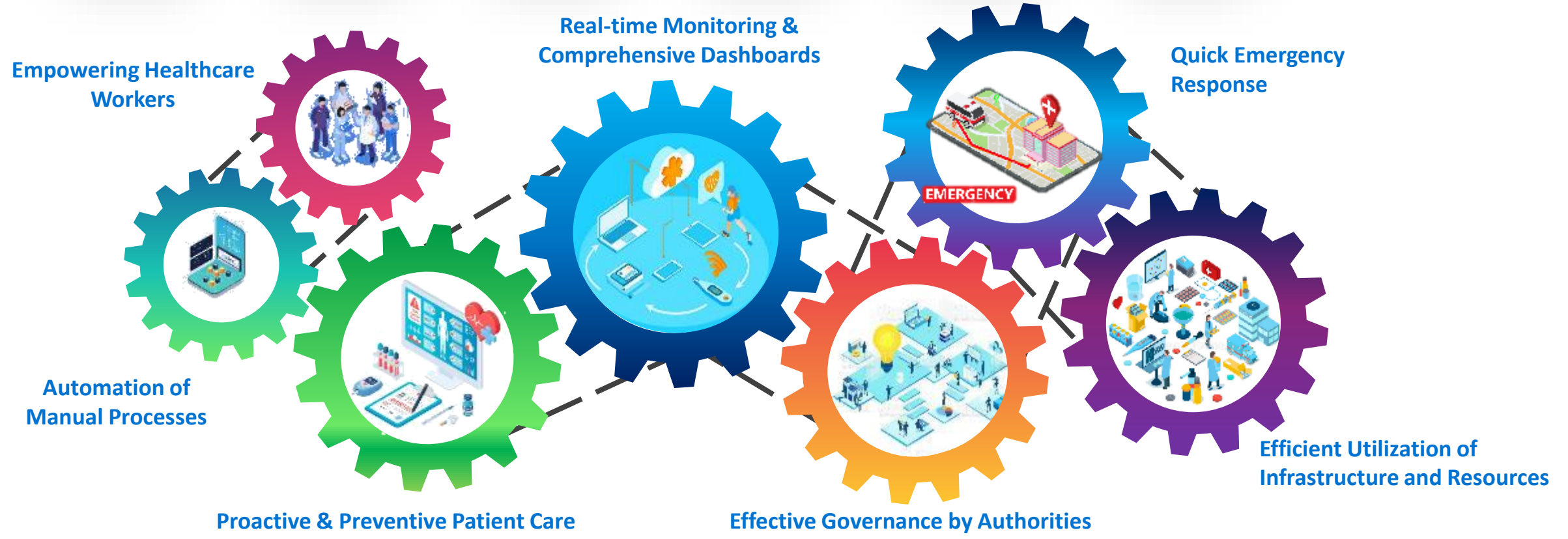
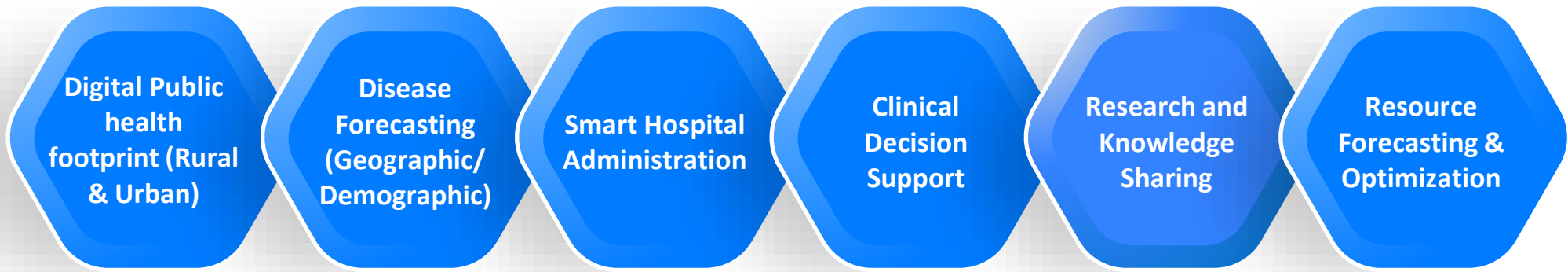
SL4. Health status prediction (Output image)

Risk simulation



Life-style simulation





\Orchestrating a brighter world

NEC creates the social values of safety, security, fairness and efficiency to promote a more sustainable world where everyone has the chance to reach their full potential.