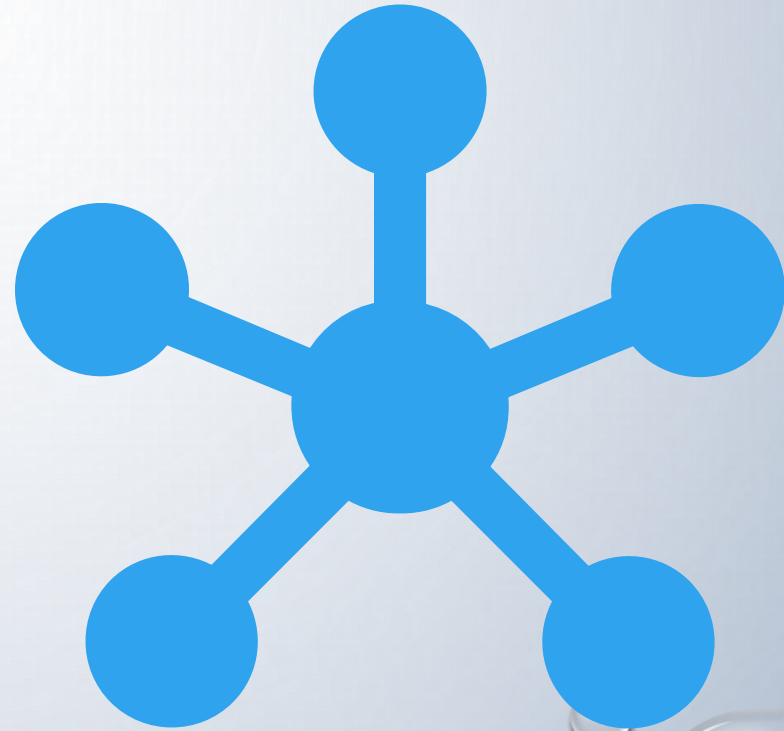# DIGITAL BUSINESS TRANSFORMATION

SURESH SOUNDARARAJAN - CIO

OBJECTIVES

Improved Citizen Services, Experience and Engagement

Integration, Interoperability and Collaboration

Reshaping processes and business models

Greater agility

Cost, Efficiency and Sustainability

CI Pipeline and Embed Data and Security in the CI cycle

VDH VIRGINIA DEPARTMENT OF HEALTH

ACTIVITIES

- DIGITAL ACCESSIBILITY

- ELECTRONIC HEALTH RECORD – PUBLIC HEALTH FOCUS

- LEVERAGING AND EXPANDING HIE FOR POPULATION HEALTH

- DATA MODERNIZATION INITIATIVE (RATIONALIZATION, ENTERPRISE DATA PORTAL…)

- LEAN, AGILE, SECURE ARCHITECTURE AND API INTEGRATIONS FOR BETTER SERVICE DELIVERY

- LEVERAGING AI, PROCESS AUTOMATIONS, VIRTUAL AGENTS…

- MASTER PATIENT – IDENTIFICATION AND INTEGRATION

VDH VIRGINIA DEPARTMENT OF HEALTH

CURRENT AI/ML PROJECTS

| Project	Method	Phase	Notes
Predicting MENA Populations	Support Vector Machine (SVM)	Complete	William and Mary led project that developed a machine-learning classification algorithm will be developed to detect linguistic and ethnic naming patterns based on textual characteristics of full name sequences using a long short-term memory machine learning model
Vital Statistics Annual Report	Conversational AI/Analytics and Natural Language Processing (NLP)	Code Testing /Feasibility and Cost Analysis	Utilizing Gemini to query Vital Statistics reports. Also provides AI generated insights
Missing Variable in Vital Record prediction	SVM/Naïve Bayes	Code Testing /needs assessment	Used to predict missing fields such as ICD-10, Gender, etc. based on known variables
Data Quality	K-Nearest Neighbors (KNN) Isolation Forest	Code Testing /needs assessment	Working with Sudarshan on looking at ways to handle missing data and outliers
MPI	Expectation Maximization (EM)	Implemented	
MPI	Cosine Similarity, SVM, Naïve Bayes, KNN,	Contemplation	Review of other linkage methods to improve match quality
Public Health Modeling	Recurrent Neural Network (RNN), Long Short -Term Memory (LSTMs)	Contemplation/needs assessment	Model disease spread based on epidemiological data

DIGITAL INVESTMENT TRENDS AND PRIORITIES

- CYBERSECURITY POSTURE

- APPLICATION RATIONALIZATION AND MODERNIZATION

- MOVING TO AND LEVERAGING CLOUD PLATFORMS

- BUSINESS INTELLIGENCE

- TOTAL EXPERIENCE SOLUTIONS

- OMNICHANNEL STRATEGIES

- DIGITAL ACCESSIBILITY

- RECORDS DIGITIZATION AND MANAGEMENT
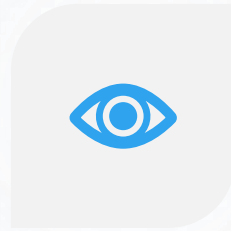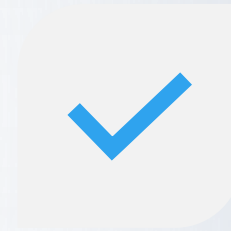
VDH
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OF HEALTH
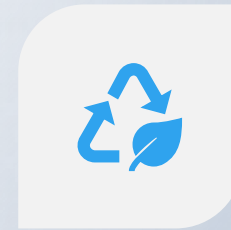
STEPS

Strategic Goals – **Alignment**

Consumable transformation strategy

Attainable targets

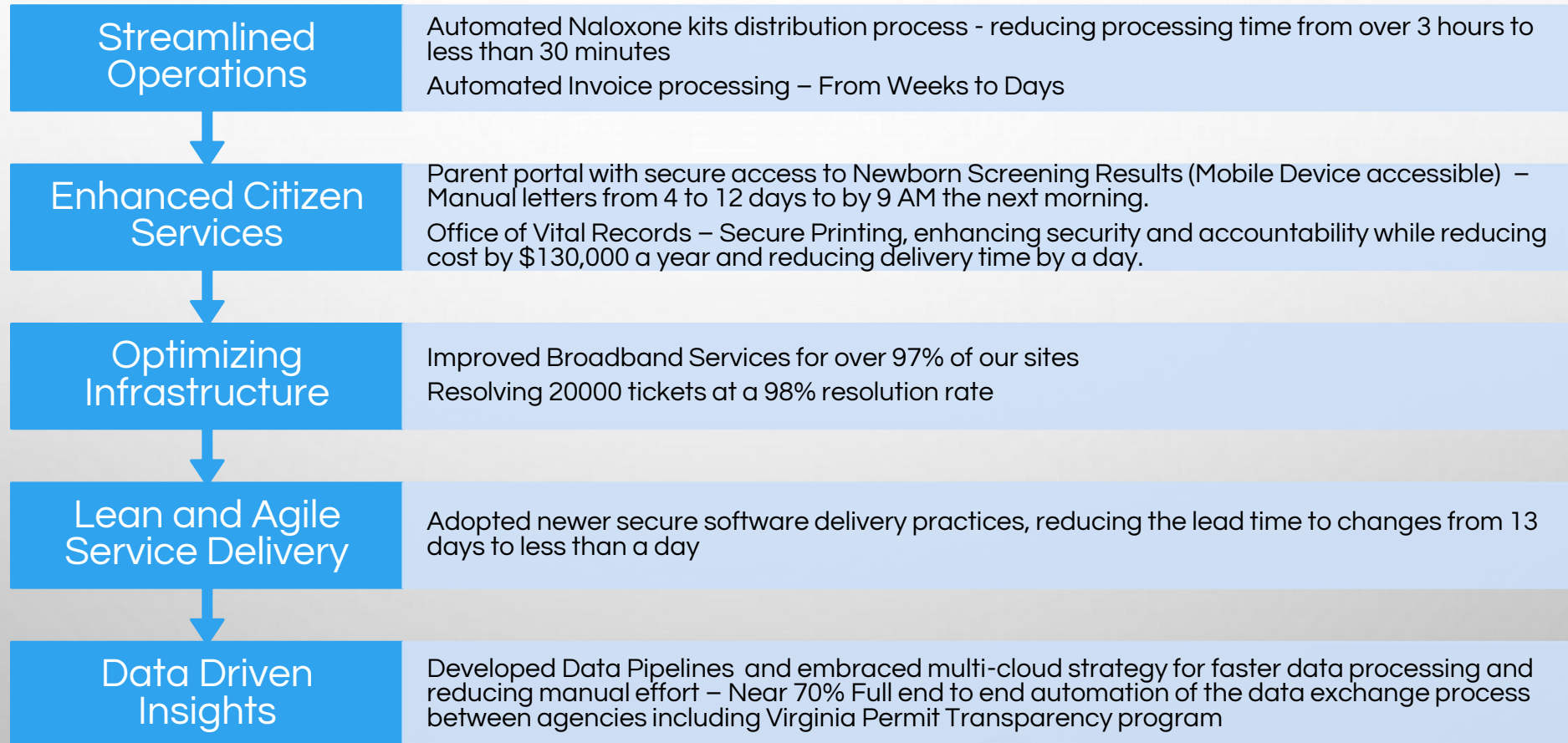KPI's to measure **progress**

Sustainability plan and **responsibility**

PROOF OF CONCEPT

Lighthouse Projects, Pipeline and Sequencing

SOME KEY ACHIEVEMENTS

Streamlined Operations
Automated Naloxone kits distribution process - reducing processing time from over 3 hours to less than 30 minutes

Automated Invoice processing – From Weeks to Days

Enhanced Citizen Services
Parent portal with secure access to Newborn Screening Results (Mobile Device accessible) – Manual letters from 4 to 12 days to by 9 AM the next morning.

Office of Vital Records – Secure Printing, enhancing security and accountability while reducing cost by $130,000 a year and reducing delivery time by a day.

Optimizing Infrastructure
Improved Broadband Services for over 97% of our sites

Resolving 20000 tickets at a 98% resolution rate

Lean and Agile Service Delivery
Adopted newer secure software delivery practices, reducing the lead time to changes from 13 days to less than a day

Data Driven Insights
Developed Data Pipelines and embraced multi-cloud strategy for faster data processing and reducing manual effort – Near 70% Full end to end automation of the data exchange process between agencies including Virginia Permit Transparency program

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