Agenda

01 AI Adoption for Singapore Public Service

02 AI Adoption for Civil Service College

03 Focus Areas for AI Adoption

04 Enablers

AI Vision for the Singapore Public Service

The vision is for Government agencies to use AI to deliver high impact outcomes in their core business.

…

To achieve this vision, need to **define and prioritise high impact AI use cases**.

The AI Strategy for the Government has five recommendations:

- Identify **common AI applications** that can be proliferated

- Productionise AI tools by **building centrally**

- Identify **signature AI use cases** to demonstrate impact

- **Proliferate AI capabilities** by broadening and deepening technical capabilities

- **Strengthening trust** in the Government's use of AI by establishing governance

2 Broad Ways AI can support our work

Automate repetitive tasks

Are there repetitive tasks at work that you wish could be automated? Tasks that AI can automate tend to be consistent and repetitive. There are two archetypes of AI applications that automate repetitive tasks:

- Recognition
- Conversation Systems

Augment human capabilities

Do you wish you had more insights from data to back up your decisions? AI can support by providing predictions and detecting patterns not perceivable by humans. There are three archetypes of AI applications that augment human capabilities:

- Personalisation
- Pattern and Anomaly Detection
- Forecasting and Decision Support

9 Common AI Applications under 5 Archetypes of AI Applications

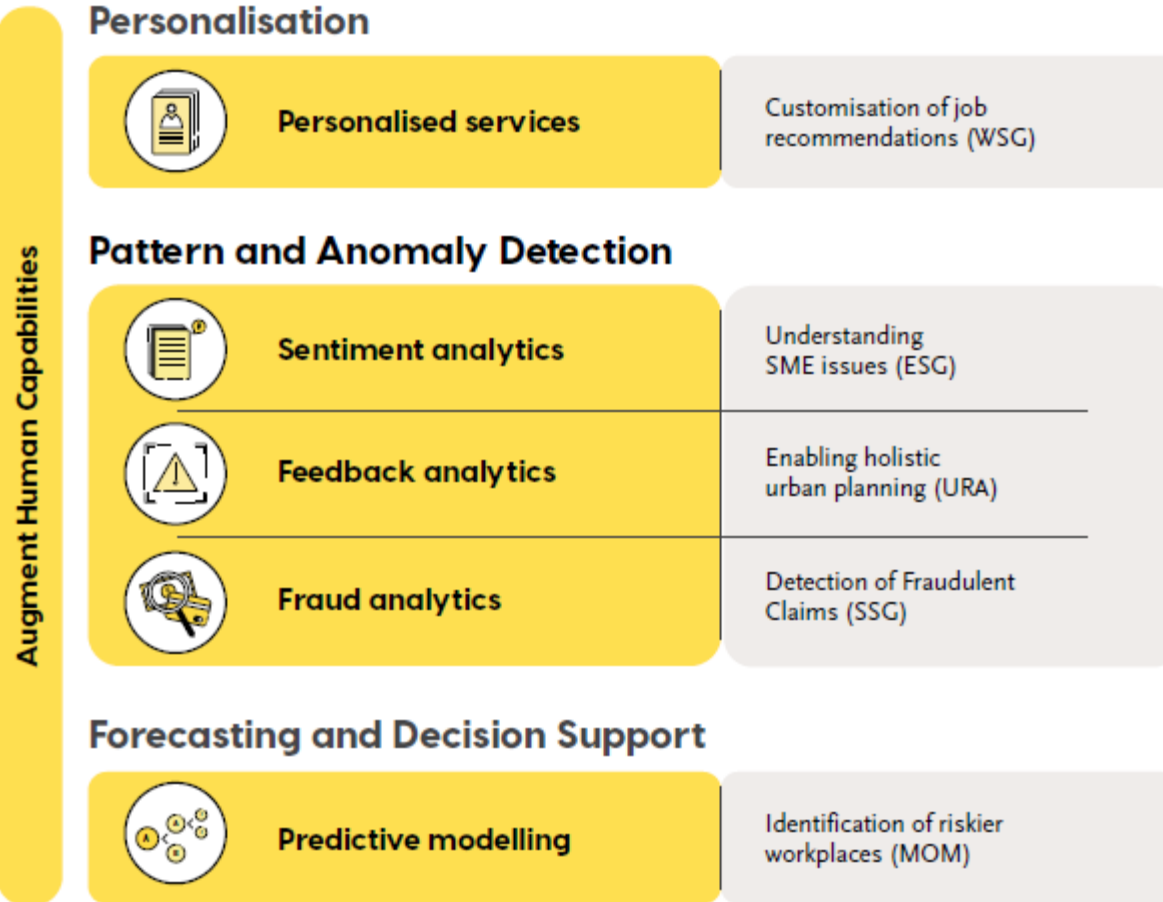| Common AI Application	Use Case
Recognition	
Video analytics	Video analytics for Kerbside Loading Bay Pilot (URA)
Information extraction and summarisation	Extraction of unstructured financial data (DOS)
Conversation systems	
Chatbot	Municipal Services Chatbot (MSO)
Speech and language tools	Transcription of parliamentary sitting (Parliament)

Automate Repetitive Tasks

9 Common AI Applications under 5 Archetypes of AI Applications

Augment Human Capabilities

Personalisation

	Personalised services	Customisation of job recommendations (WSG)

Pattern and Anomaly Detection

	Sentiment analytics	Understanding SME issues (ESG)
	Feedback analytics	Enabling holistic urban planning (URA)
	Fraud analytics	Detection of Fraudulent Claims (SSG)

Forecasting and Decision Support

	Predictive modelling	Identification of riskier workplaces (MOM)

Central AI Products that Support the Development and Deployment of AI Across the Service
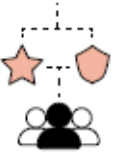
Service Delivery

Virtual Intelligent Chat Assistant (VICA)

Provides a human-like conversational experience.

Percy

An AI-powered personalisation software platform that can also maintain the data security of citizens.

Internal Operations

Video Analytics System

A scalable and modular system which empowers agencies to use Video Analytics as a service.

Transcribe

An AI platform converting speech in audio or video into text.

SG Translate

A customised Government translation engine using AI to produce translations.

你好
↓
Hello

Fraud Detection

A platform that provides insights for evaluating and investigating grant fraud.

Policymaking and Planning

GovText

A text analytics platform that streamlines multiple text analytics processes.

Analytics.gov

A platform that provides centralised access to commonly used analytics products for data exploitation.

Two Broad Categories of Learners

What are tools without the people using them?

FOCUS

General Public Officers

Officers who use data or AI as tools in their daily tasks, but not well-versed in use of data or AI

CSC supports the **broad-based development needs** GPOs through interventions such as the Cybersecurity and Data Protection (CSDP) courseware and quizzes, and our suite of Digital courses (e.g. Data Analytics).

ICT&SS Officers

Officers who work on data science and AI as their full-time work

Under the functional lead for ICT&SS, the Digital Academy (DA) is the capability building arm looking after ICT&SS workforce.

Different learning Archetypes for Training with Different Needs

Artificial Intelligence/Machine Learning (AI/ML) Space

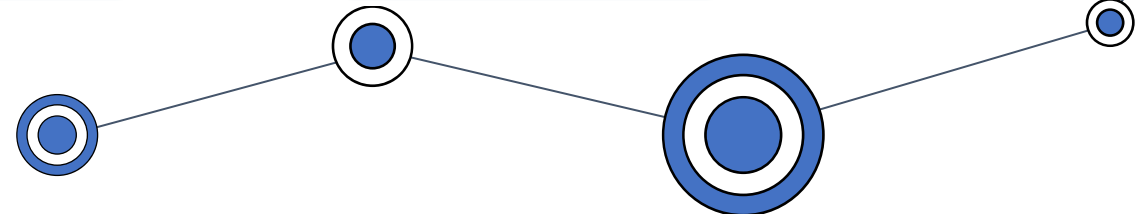Work started since 2021 and continuously improving through:

Alignment with Public Service Digitalisation Efforts

Provision of **Up-to-Date** and **Easily Accessible** Content

Development of **Timely** Learning Interventions

Alignment with Public Service Digitalisation Efforts

Partnership with GovTech to:

Identify learning needs/gaps in AI

Co-develop programmes

Deliver the programme with GovTech SMEs as programme facilitators

AI/ML Programme Suite co-developed with GovTech (Targeted at General Public Officers)

Are you Ready for AI? Delivering a Successful AI Project	Introduction to Machine Learning Techniques(Code-free)	_AI for Management	Starting a Video Analytics Project – Systematic Approach	Prompt Engineering: A Practical Guide to Success

...

Classroom

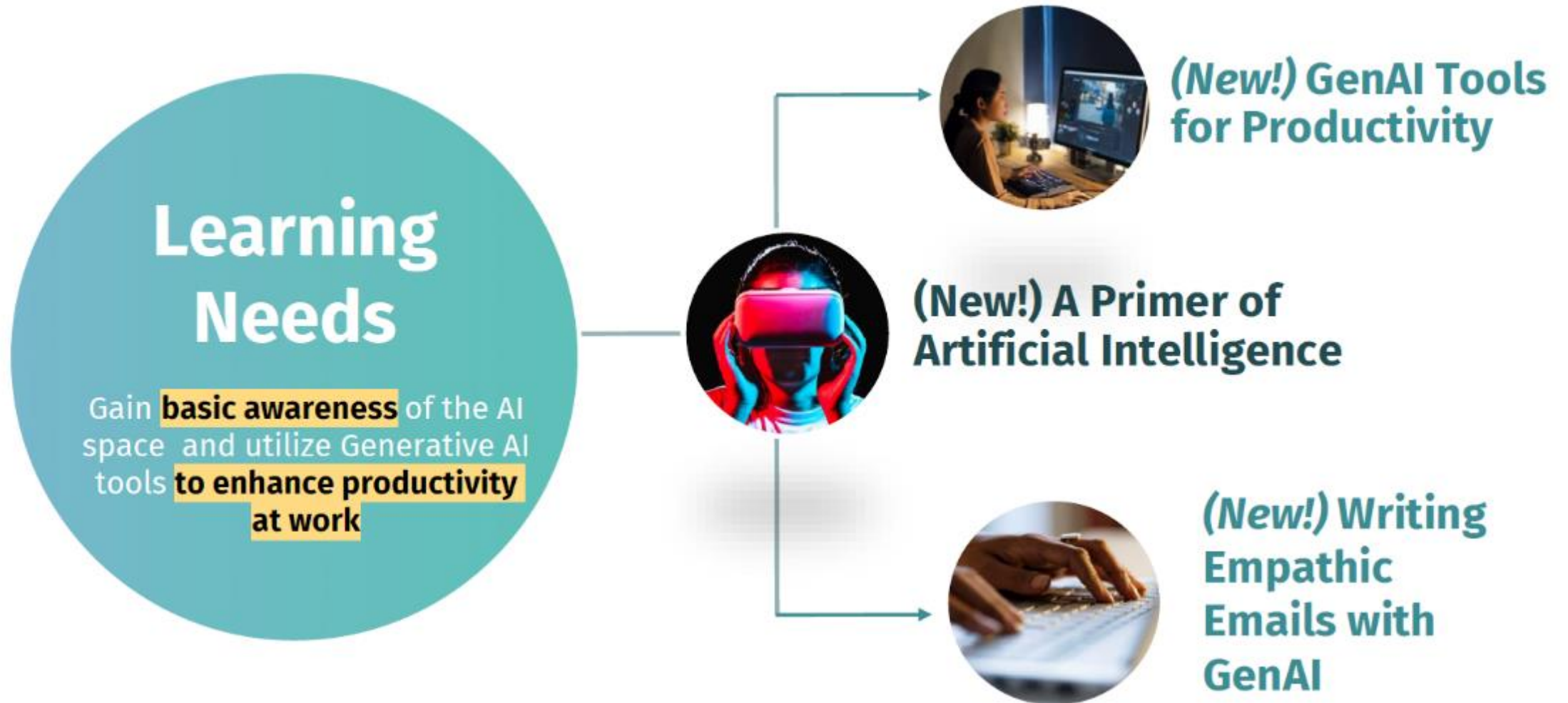Formal learning enabling learners to gain deeper skills with a focus on application

Webinars

Industry updates and previews of our formal programs with wider reach

eLearning

Foundational content with extensive reach

AI Learning Intervention Strategy

Classroom:
Focus on Deep Skilling & Application

Learning Needs

Gain **basic awareness** of the AI space and utilize Generative AI tools **to enhance productivity at work**

(New!) **GenAI Tools for Productivity**

(New!) **A Primer of Artificial Intelligence**

(New!) **Writing Empathic Emails with GenAI**

Webinars:
Up to date and easily accessible

Learning Needs

Demand for **application-based sharing** sessions to raise awareness and desire to adopt AI

(New!) AI Learning Series

(New!) GenAI in Data Analytics

eLearning:
Up to Date and Easily Accessible Content
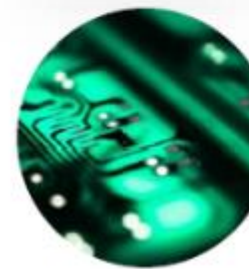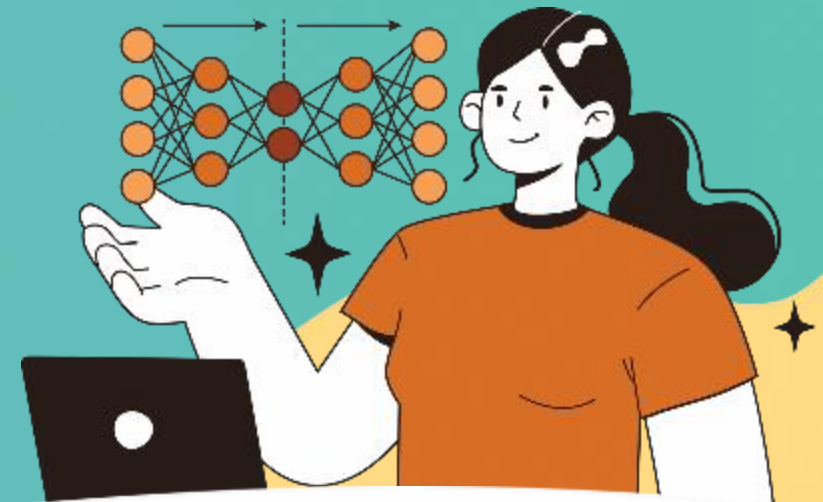
Why **AI Ignite** ?

"

We Heard You!

"

<mark>*Respond*</mark> to growing demand and interest in AI content in the public service

- Feedback from CSC's regular agency engagement sessions and Customer Surveys
- "Sunrise" competency

AI Ignite

What is AI Ignite?

1. *Year-long AI Learning Campaign to* **spark interest and create "Awareness" for AI** *among public service officers*

2. Collection of AI focused learning interventions **for both WOG and functional communities** (mix of paid & complimentary, short sessions & full programmes)

3. Unified marketing and post event consolidation via one-stop microsite to **provide convenience for registration and resource retrieval**

4. Opportunity to **understand learning needs**. Laying foundation for further work in FY2025

Sparking Curiosity, Embracing AI Solutions

AI Ignite
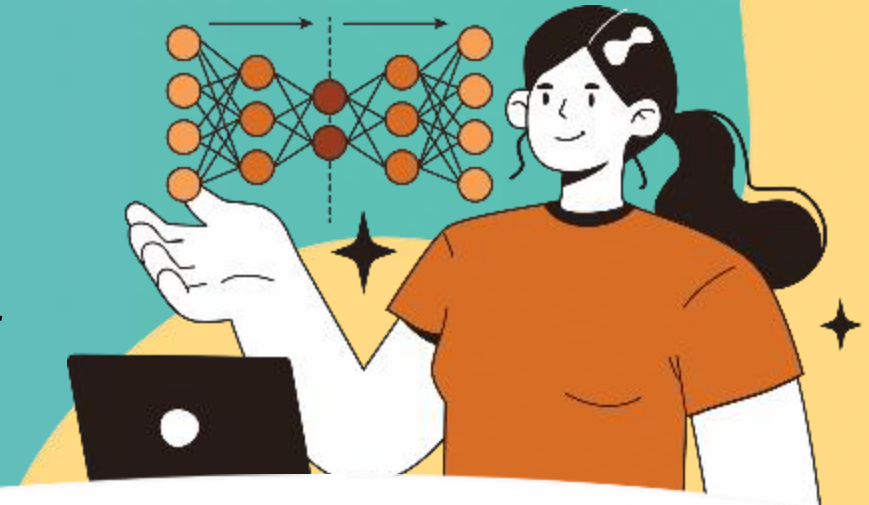
What to Expect?

~20 Learning Offerings in Total

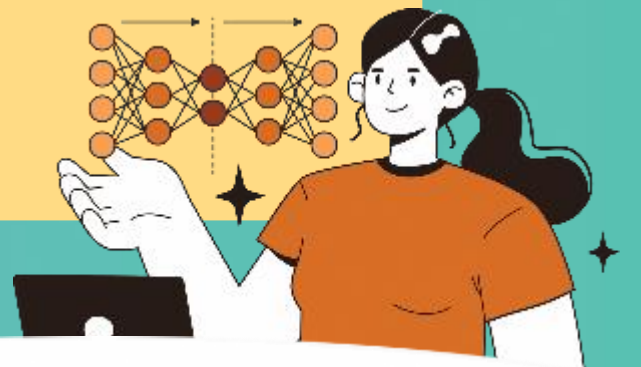**8** Webinars/Brownbag Sessions

4 E-Learning Enhancements

3 Research Resources

3 New Classroom Programmes

2 Seminars

1 Learning Game

AI Adoption for
Civil Service College

Targets for CSC's AI Roadmap

Innovation and Organisational Agility
...

- Foster an **innovative culture**
- Enable **fast adaptation** to rapid evolving needs
- Lead in **continuous Learning and Development**

Cost Savings and Resource Optimisation
...

- **Optimise resource** allocation and utilization
- Implement **shared management** practices

Enhanced Operational Efficiency
...

- **Streamline** administrative processes
- **Minimize** manual effort and **streamline** routine tasks

AI Adoption – Integrated Hybrid Strategy

- Combination of two approaches, where innovation and experimentation at the grassroots level are integrated with centralised strategic alignment
- Synergy between bottom-up initiatives and top-down direction in AI adoption

Grassroots Experimentation – Organic Innovation

Focuses on
Innovation and
Experimentation

Centralised Coordination – Strategic Alignment

Focus on Aligning
AI with Strategic
Priorities

AI Adoption – Grassroots Experimentation

Grassroots Experimentation – Organic Innovation

Focuses on Innovation and Experimentation

- Emphasises innovation and experimentation from grassroots or group-level initiatives, driving **AI adoption from the ground level**

- Why:-

  Flexibility: Allows diverse experimentation and adaption based on specific team needs/challenges
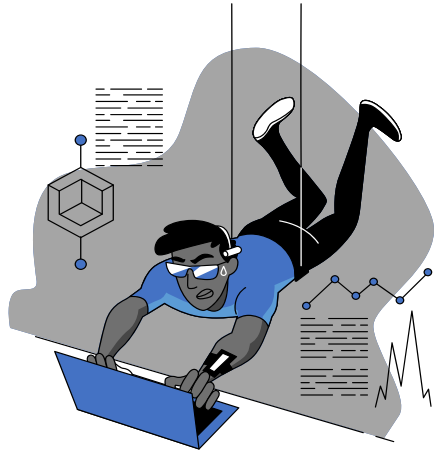
  Agility: Encourages quick iterations of innovative solutions tailored to local problems and opportunities

  Engagement: Increases engagement and ownership among officers involved in AI adoption

AI Adoption – Centralised Coordination

Centralised –
Strategic Alignment

Focus on Aligning
AI with Strategic
Priorities

- Driven centrally, **aligning AI adoption with strategic priorities** set by a centralised AI team

- Why:-

  🎯 **Strategic Alignment**: Ensures that AI initiatives are aligned with CSC's overall organisational goals and priorities

  📈 **Scale**: Enables large-scale deployment of AI technologies relevant across College, and helps promote sharing of best practices and lessons learned

  ☂ **Resource Allocation**: Allows efficient allocation and management of resources for large-scale AI deployment

4 Focus Areas for AI Adoption

- Pursuit of AI development across the 4 focus areas necessitate the **implementation of distinct and targeted development strategies** for each area
- This is to harness the full potential of AI technologies and effectively **address the unique challenges and opportunities presented** for each area

Enhanced Individual Productivity

Learning & Development Support
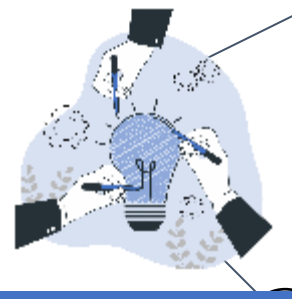
Advanced Learning Delivery

CSC-wide AI Integration

Development Strategy for Focal Area 1: Enhanced Individual Productivity

Focus Areas	Strategy	Source	AI Applications & Use-Cases	Drivers
Enhanced Individual Productivity	Facilitating mass adoption through **comprehensive training programmes** aimed at empowering officers with GovTech central and general market AI products	• GovTech Central AI Products • General Market AI Products	LaunchPad, M365 Copilot, AIBots, Pair Chat, Pair Assistant, Pair Search, Smart Compose, Transcribe, SG-Teams Transcription, Noms, ChatGPT, AWS Bedrock and Q, Google Vertex AI and Gemini	**Centralised Coordination**

Development Strategy for Focal Area 2: Learning & Development Support

Focus Areas	Strategy	Source	AI Applications & Use-Cases	Drivers
Learning & Development Support	Implementing a phased approach of **piloting** new AI technologies, **evaluating** their effectiveness, **promoting** successful tools, and providing comprehensive **training**	• General Market AI Products • Specialised AI Applications	Utilisation of AI products to enhance learning and development initiatives, e.g. • **Storyboarding:** Utilising AI to generate visual storytelling to simplify complex concepts and enhance learner engagement • **Animation:** Using AI to create interactive and engaging animated content for immersive learning experiences. • **Videos:** Using AI to develop instructional videos and tutorials to facilitate self-paced learning and skill development	**Grassroots Experimentation**

Development Strategy for Focal Area 3: Advanced Learning Delivery

Focus Areas	Strategy	Source	AI Applications & Use-Cases	Drivers
Advanced Learning Delivery	Implementing a phased approach of **piloting** new AI technologies, **assessing** their effectiveness, **deploying** successful solutions, and facilitating comprehensive **scaling**	• Leveraging highly specialised applications and products designed specifically for L&D	Utilisation of AI products to advance learning delivery, e.g. • **AI Tutoring Systems**: Platforms that deliver personalized learning experiences • **Adaptive Learning Platforms**: Systems that dynamically adjust learning content and pathways based on individuals • **Video Analytics**: Utilization of data analytics from video interactions to optimize learning experiences • **Self-Learning Courses**: Interactive courses designed with AI-driven content recommendations and assessment tools • **Digital Coaching and Mentorship**: Virtual coaching and mentorship programs for personalized guidance and support	**Hybrid of both Centralised Coordination & Grassroots Experimentation**

Development Strategy for Focal Area 4: CSC-wide AI Integration

Focus Areas	Strategy	Source	AI Applications & Use-Cases	Drivers
CSC-wide AI Integration	Implementing a phased approach of **building** or **piloting** new AI technologies, **assessing** their effectiveness, **deploying** successful solutions, and facilitating comprehensive **scaling**	• Incorporating highly specialised applications and products designed for CSC-wide	Utilisation of AI products to enhance CSC's business e.g. • **Customer Self-Service**: AI-driven chatbots for handling customer inquiries and support requests, improving response times and customer satisfaction. • **Data Analysis**: Utilize AI algorithms to analyze customer data patterns, enabling personalized marketing strategies and operational optimizations. • **Recommendation Engine**: Develop and integrate AI-powered recommendation engines to suggest products or services based on customer preferences, enhancing cross-selling and upselling opportunities.	**Centralised Coordination**

Challenges to Address in Every AI Strategy

Coordination Disorder

Might result in disparate AI initiatives that lack overall alignment

Resource Allocation

Careful resource management and coordination to avoid duplication of efforts

Risk of fragmentation

Without centralised oversight, inconsistency in data standards, integration or compliance

Skills Gaps & Training Needs

Officers may not be equipped with the necessary competencies in AI literacy, ethics, and specialized applications

Innovation Constraint

Stifle innovation by prioritising conformity and standardisation over creativity and local adaptation

Resistance to Change

Staff might resist top-down mandates if they perceive them as imposing rather than supportive, importance for stakeholders' engagement

Implementation Lag

Decision-making processes may slow down the adoption and responsiveness to emerging opportunities or challenges

# Key Enablers to Drive the AI Adoption

Governance & Infrastructure

...

Ensures the establishment of **policies, governance standards, organizational structure & infrastructure** to support the effective, scalable and secure implementation of AI

Capability Building

...

Focuses on **developing the skills and expertise** required to effectively implement and use AI technologies

Culture & Advocacy

...

Aims to foster an **organizational culture** that **embraces** AI and **advocates** for AI adoption, encouraging innovation and adaptability

Enabler 1: Governance & Infrastructure

Ensures the establishment of **policies, governance standards, organisational structure & infrastructure** to support the effective, scalable and secure implementation of AI

- Expand the **Data Strategy and Governance Framework** to enhance data management for AI

- Leverage the **Centralised Data Repository (DataHub)** to centralise and optimise data storage and sharing to enable AI

- Introduce and implement an **AI Governance Framework** to ensure effective, ethical and safe deployment of AI

- Establish an **AI Steering Committee** to provide strategic direction and oversight for AI initiatives across CSC

- Develop an **AI Registry for CSC** to maintain transparency and clarity in AI implementation

Foundations of AI Development: Centralised Data Repository

- Need to consider various current and potential systems across the organization, e.g. what operations will need, how the systems are collecting data today, limitations of these systems, how to future-proof the structure so that it is scalable, how to "place" existing data tables into this structure
- Curated a total of **40+ master data tables**, establishing some form of the Metadata (column information, log, configuration)
  - Hierarchical data tables (raw data tables)
  - Reference data tables (code tables) – Help classify and describe the information, reflecting changes in the classification over time
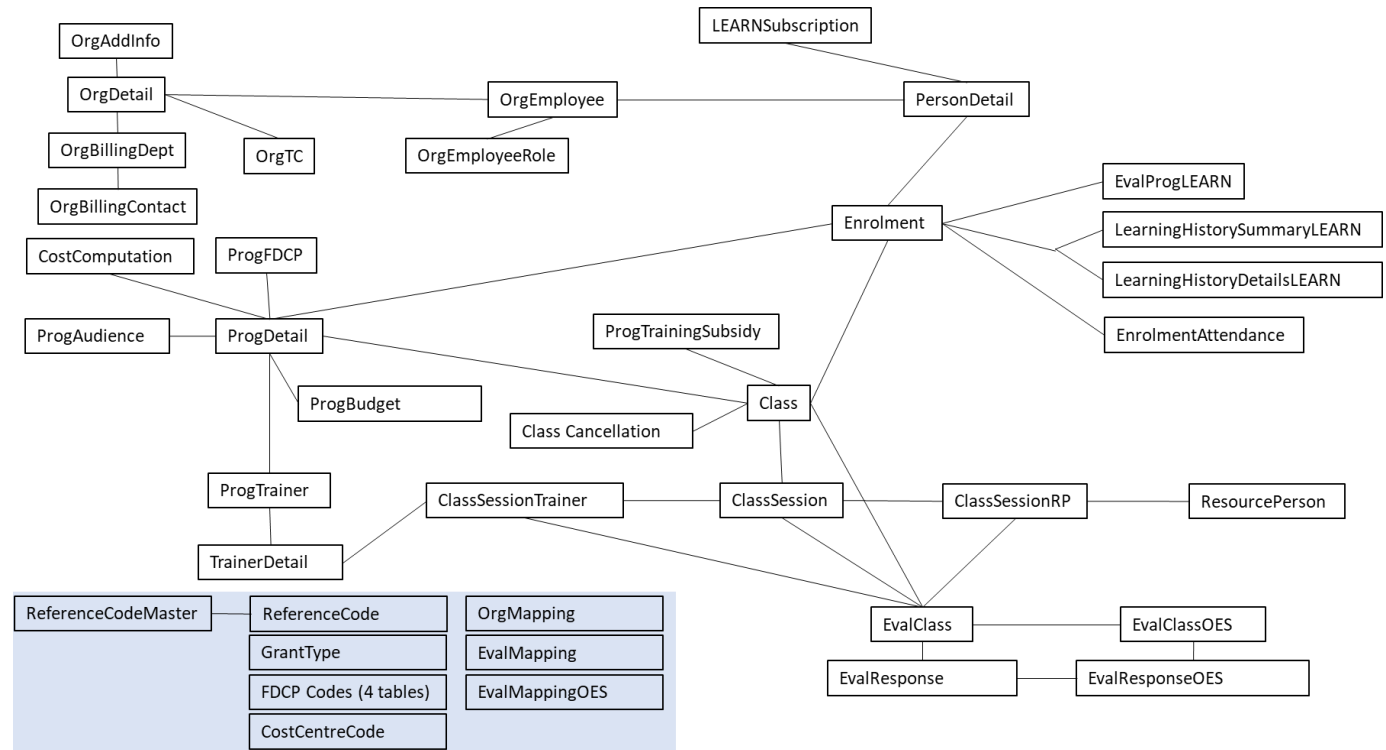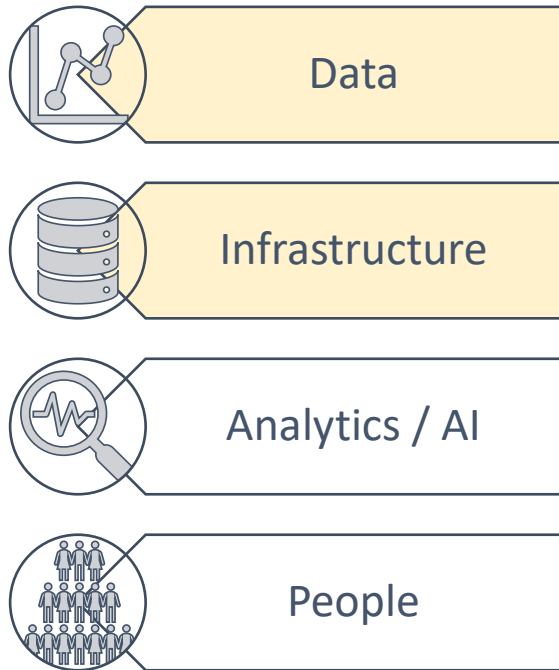
Robust data infrastructure to fuel CSC's transformation efforts
- A central data repository
- Driven by an analytical layer (modular)

Data

**Infrastructure**

Analytics / AI

People
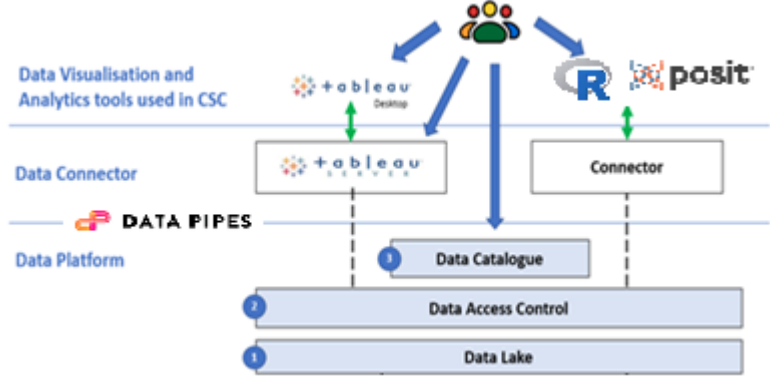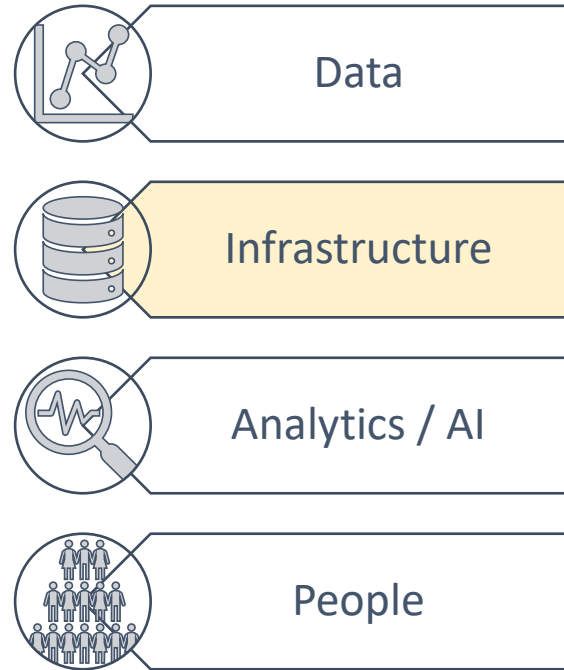
Analytical Layer
A cloud-based system that provides officers with **access to data** from systems across College and **enables data discovery** through visualizations (dashboards) and analytics
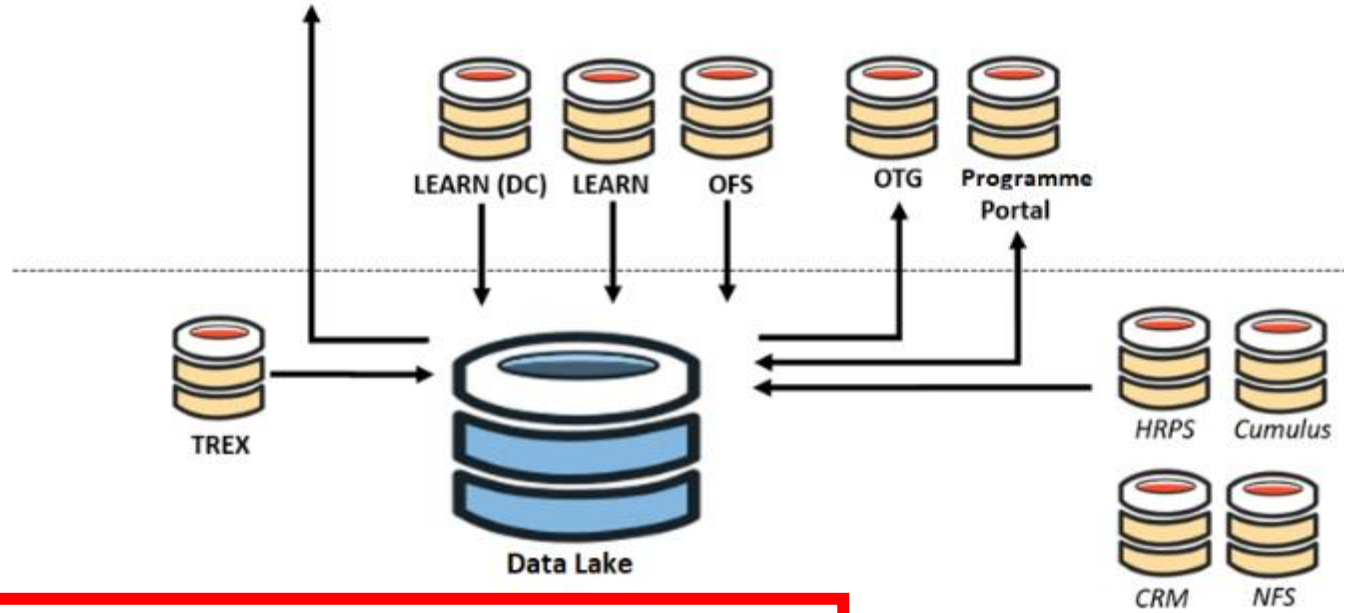
Data Lake
A **central data repository** that processes and stores data across CSC, aligning it to Single-Sources-of-Truth (SSOTs) and facilitating smooth data exchange across systems

Aim
- Purpose-built
- Seamless
- Scalable
- "Safe"
- Performant & Cost-Effective

Enabler 2: Capability Building
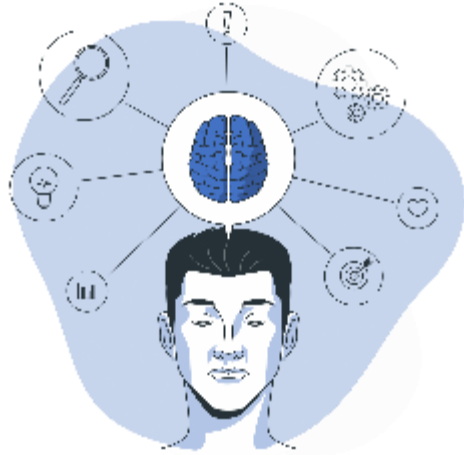
Focuses on **developing the skills and expertise** required to effectively implement and use AI technologies

- Set the **baseline AI Literacy level** for CSC officers, with curated resources

- Develop customised **training resources on AI Ethics and Applications** and AI Playbook specific for CSC

- Develop **training for specialised AI applications** across various domains (e.g. L&D, Learning Delivery, Corporate Functions)

- Conduct **cross-functional AI workshops** to foster collaboration and skill sharing

- Establish a **virtual AI lab** for hands-on learning and experimentation
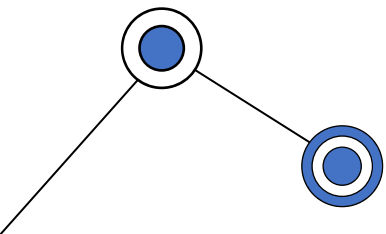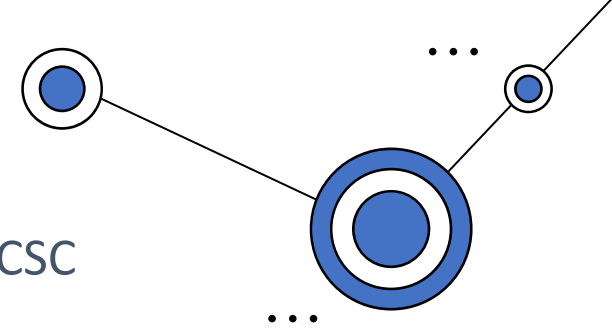
Enabler 3: Culture & Advocacy

…

Aims to foster an **organisational culture** that **embraces** AI and **advocates** for AI adoption, encouraging innovation and adaptability

- Conduct an annual event **Data & AI (DnA) Week** to foster AI awareness and engagement

- Publish periodic **newsletters to share insights, updates and best practices** on AI initiatives in CSC

- Set up an **CSC AI Online Community Space** to facilitate collaboration and knowledge sharing, with **AI thought leadership webinars/materials** to share best practices and innovation insights in CSC

- Conduct periodic **AI clinics e.g. AI Tune-Up Thursdays** to provide ongoing support, skill enhancement and crowd-sourcing of solutions

- Call for **Department-Level AI Volunteers & Advocates** to promote grassroots engagement and support

- Work with **existing innovation culture awards** to recognise and encourage AI-driven innovations and initiatives

Rewards from the Hard Work in
Data Science & AI:
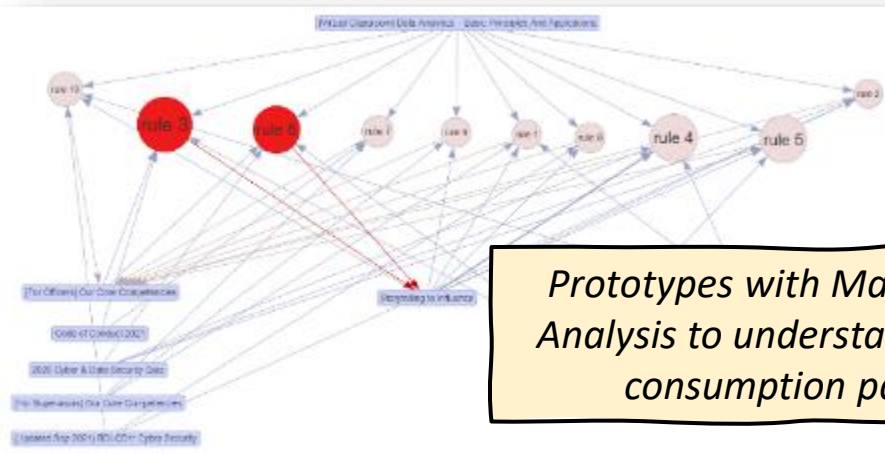*Deliberate proof-of-concepts of value to build trust*

Data

Infrastructure

Analytics / AI

People
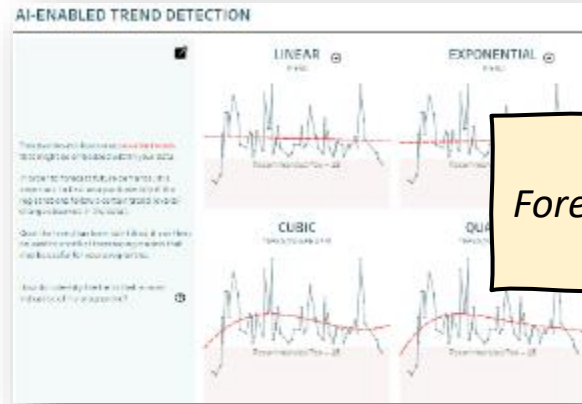
Experiments with Demand Forecasting for sharper projections of programme demand
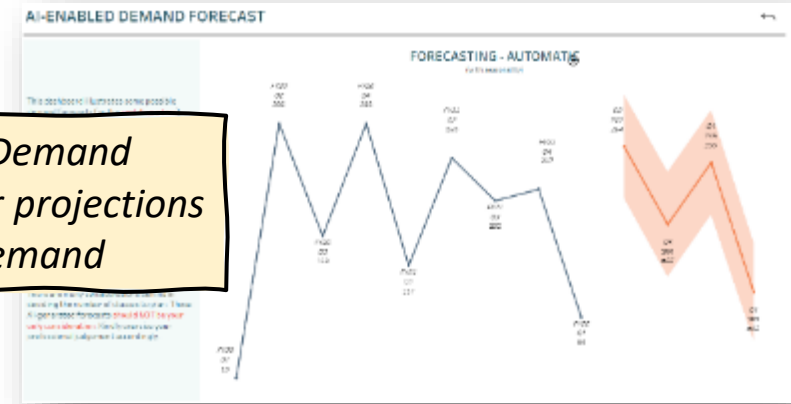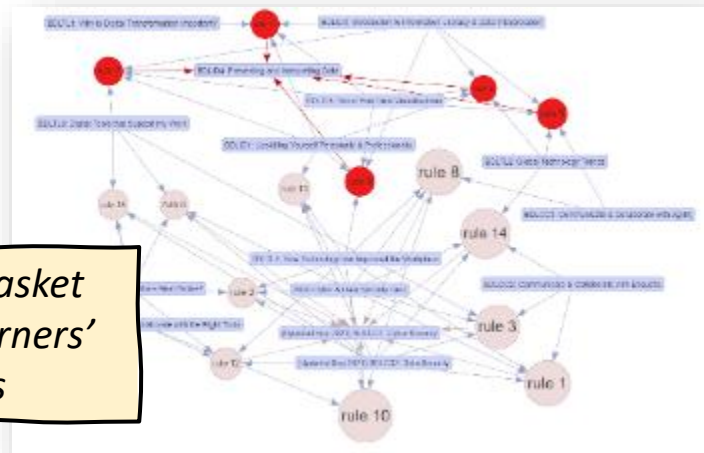
Recommendation Engines for personalized learning

Prototypes with Market Basket Analysis to understand learners' consumption patterns

Thank you!