

An abstract graphic on the left side of the slide. It features a large central circle composed of three concentric rings in shades of blue and teal. Surrounding this central element are several smaller decorative elements: a solid red circle in the top left, a solid blue circle in the top right, a solid red circle in the bottom right, and a solid light blue circle in the bottom left. Additionally, there are two 4x4 grids of small black dots, one in the top right and one in the bottom right. A yellow arc with two dots is positioned on the left side of the central circle.

AI and emerging technologies for the benefit of Ministries of Labor

Presented by Lyndon Ford

VISION : LEVERAGING THE USE OF AI TO ENHANCE PROVISION OF LABOUR MARKET INFORMATION

To become Jamaica's national employment portal-

- This would provide a centralized platform, connecting job seekers and employers, as well as provide timely LMI to foster efficient job matching, and job security.

Significantly contribute to enhancing job security in the local labour market.

Accessibility of the LMIS island wide.



Firmly establish and increase linkages between educational/ training institutions and industry needs across the island.

Become the leader in data-driven insights and labour market intelligence to guide workforce planning, policy-making, and skills development initiatives."

Challenges in AI Adoption: Employment Services

- Limited in-house capacity for system development and maintenance
- High reliance on external expertise
- User interface requires enhancements for accessibility, particularly for persons with disabilities
- Greater integration of AI-driven analytics is needed
- Insufficient linkages with other MLSS systems (e.g., Work Permit)
- Procurement process remains lengthy and restrictive
- AI-powered job matching tools (e.g., résumé parsing) are not operating at optimal efficiency
- Lacks labour market analytics (generating real time graphs, insights, trends, demand/supply gaps, etc.)

Challenges in AI Adoption: Workforce

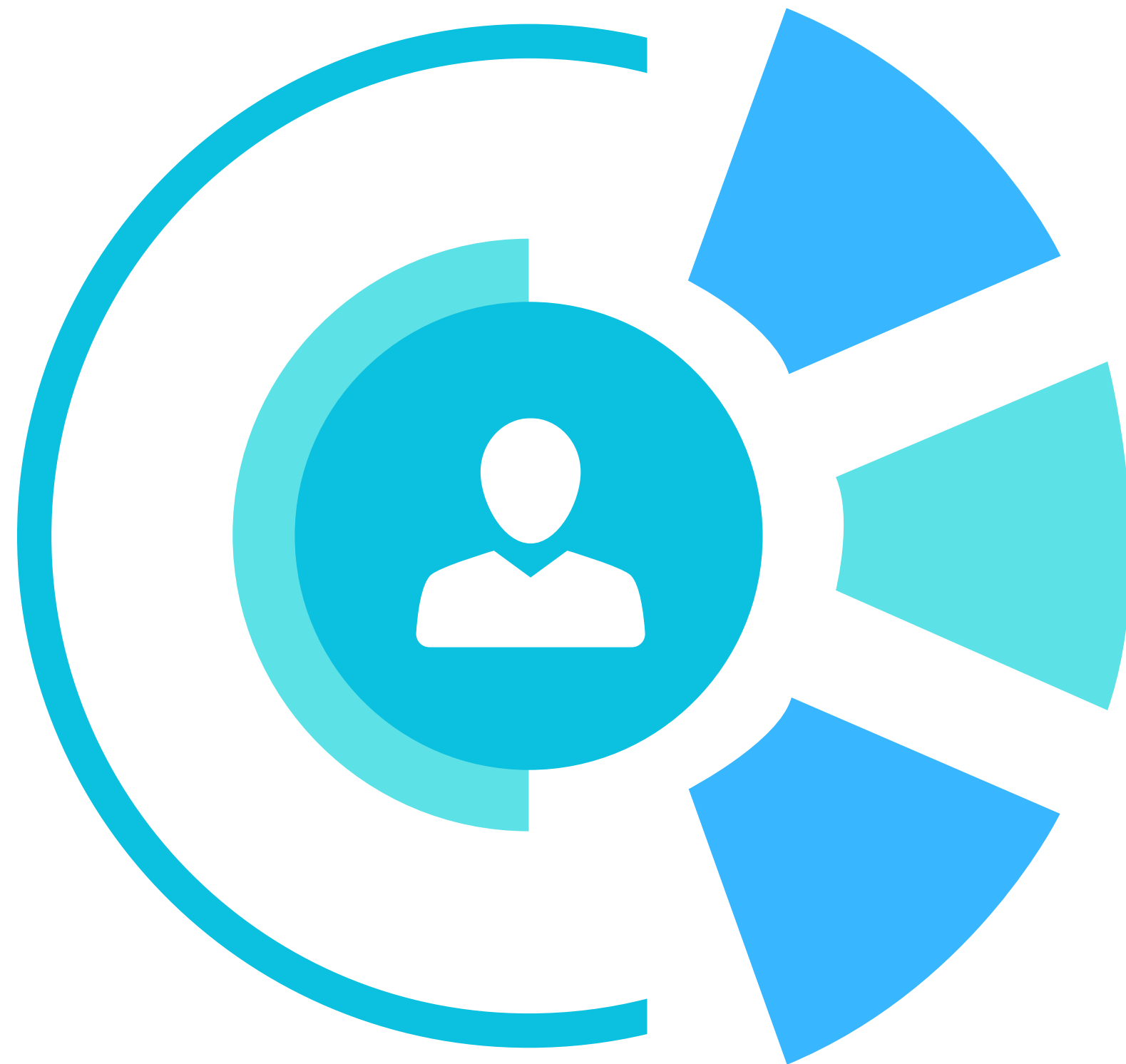
- Since 2020, the MLSS has conducted Customer Service Satisfaction Surveys (CSS) primarily through face-to-face and telephone interviews. While effective, these methods are less efficient than online surveys supported by AI, which offer faster data analysis and reporting.
- However, digital adoption remains a challenge within the MLSS:
 - 35% of customers lack computer skills, and only 16% are has advanced skill users (2023/2024)
Older persons, especially in departments like NCSC, PAD, PATH, and NIS, are less likely to use computers.
 - Nearly 75% of customers prefer face-to-face services, while only 8% favor online options (2023/2024)
 - Nevertheless, there are sections of the MLSS which could benefit from use of online surveys, supported by AI, which has higher computer literacy rates among customers. These include:
 - ELE- 97.6% computer literacy rate
 - SIP-97.5% computer literacy rate
 - Work Permit-97.1% computer literacy rate

Component 2: Increased Opportunity through Integrated Employment Services(US\$8.8m)

- Subcomponent 2.1: Strengthening the delivery of employment services
- Subcomponent 2.2: Enhancing Jamaica's Labor Market Information System
- Subcomponent 2.3: Strategic activities towards the improvement of labor market outcomes

**AI-based tools & applications being considered for
implementation**

Transforming ES into a unified and modern PES using AI



Reform 1

A digital-first and client-centered public employment service model



Reform 2

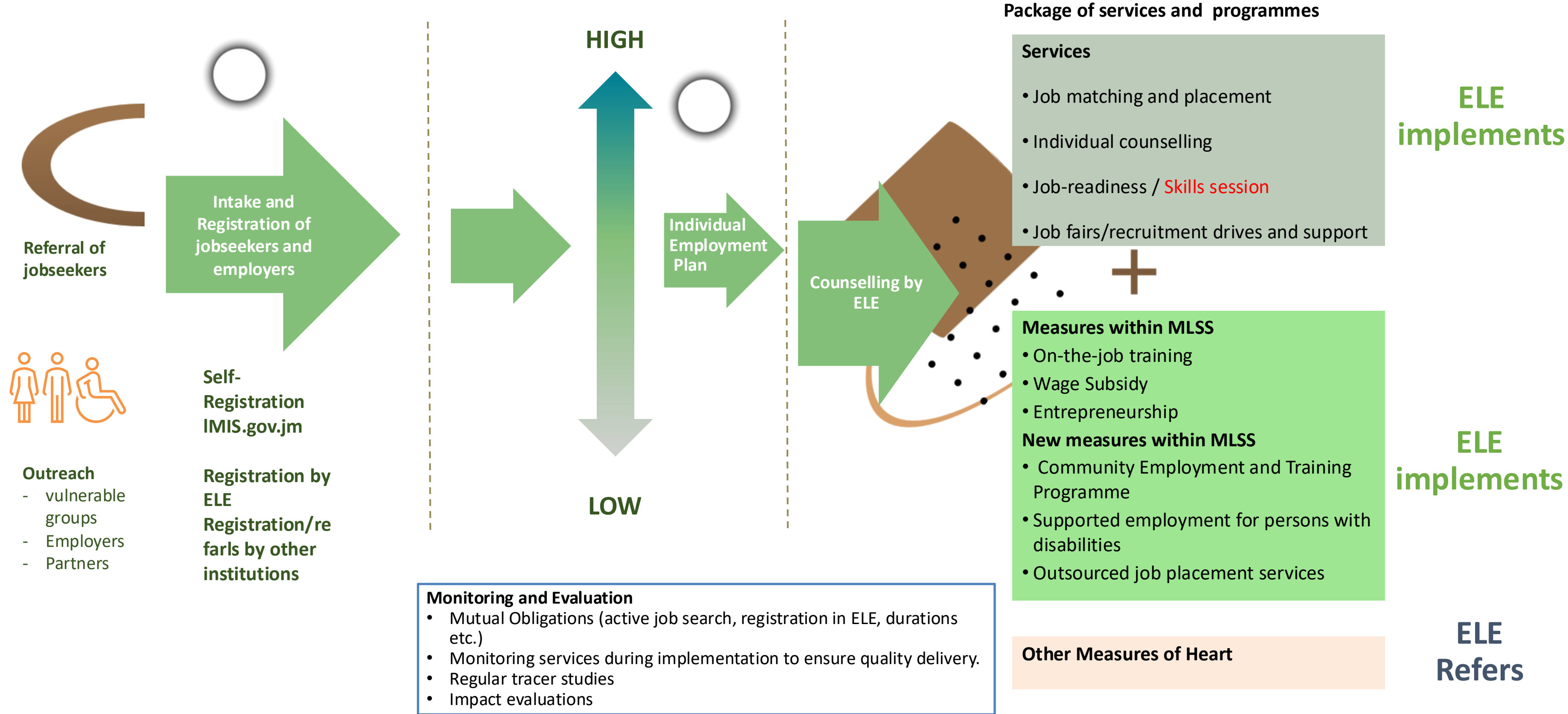
Integrated support to jobseekers and employers across physical and digital channels




Reform 3

Reinforced regulatory and institutional framework of Jamaican Public Employment Services under MLSS

Enhanced services for jobseekers

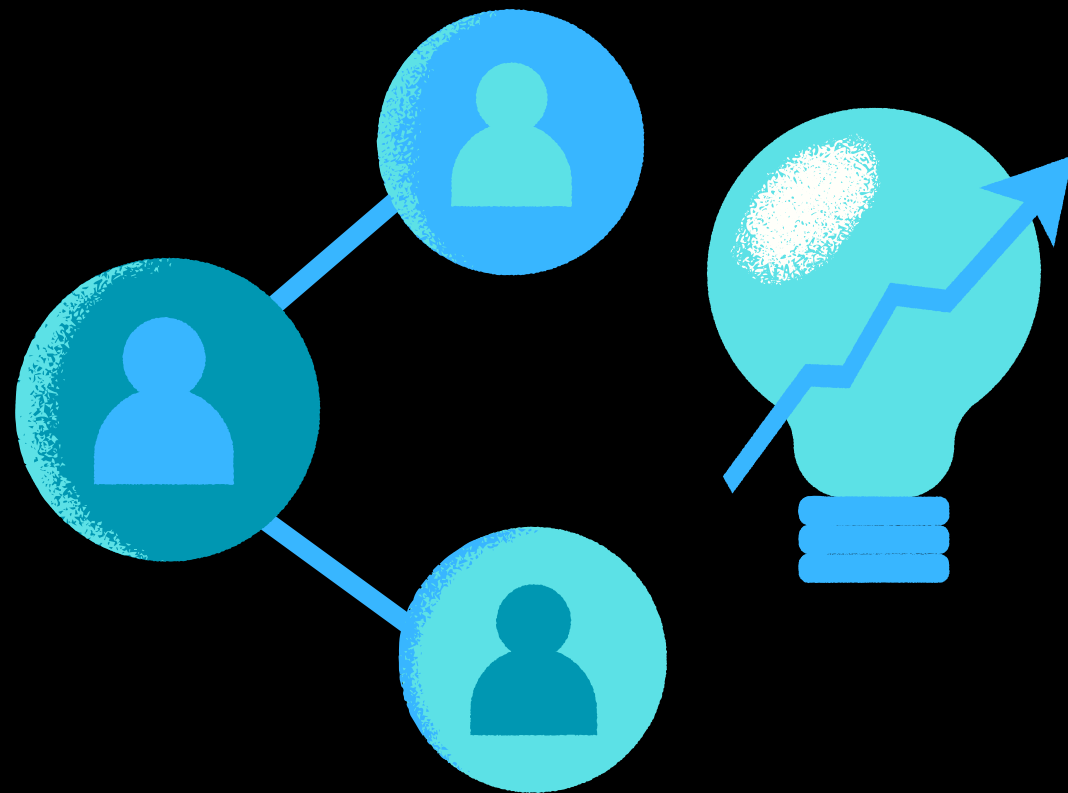


AI-driven automatic matching – 24x7

- 
- As soon as a job or resume becomes available it is immediately and automatically matched by the always-on AI, and communicated to job seeker/employer via email, WhatsApp, etc.

- Matching based on skills/experience/etc. – not keywords
 - Explainable match score – “glass box” AI (eXplainable & Interpretable AI)
 - Gap analysis between resume and job opening will enable automatic matching between skills gap and training
 - Matching “across” languages (English, Spanish, French, etc.) – enables matching a resume from Jamaica to a job opening in e.g., Dominican Republic

Parsing (reading) of resume/job opening



● Matching based on skills/education/occupations/etc. requires parsing based on AI/ML/DL (Artificial Intelligence, Machine Learning, Deep Learning)

● Extracts the “pertinent” information (skills, education, etc.) from the resume or job opening

● Normalize the extracted information to compare “apples to apples”

● Once we have the Data (e.g., skills, certifications, etc.) normalized, we can correctly classify e.g., skills according to National/Caribbean Vocational Qualification, ISCO, ESCO, O*Net, etc.

Other functionalities



1

AI-driven chatbots for support – to allow more time for PES staff's time to be spent on more vulnerable job seekers and employers

2

Resume/job opening creation based on templates

3

Use the Jamaica Data Exchange (JDE) to connect labour market data sources (e.g., Statistical Institute of Jamaica) to the new LMIS

4

Reporting tool

5

Resources for employers/job seekers

- Articles, advice, how-to's, links, etc.
- Content creators to keep the LMIS up-to-date and relevant

01 Cloud solution,
Software-as-a-Service/
Hybrid /Build



02 Off-the-shelf software (aka
white-label) ILMS

- Faster initial implementation at a lower cost
- Public, documented APIs for integration (e.g., to JDE)



03 Mobile-first ILMS, work
with 3G, 4G, as well as
5G



04 Scalability as user
population grows
(Modular, scalable,
future proof -e.g.,
Python, REST, etc.)



05 Data privacy
PII security, data protection



Technical aspects of the new LMIS



Compliance

06

- GDPR, EU act on AI
- AI both eXplainable and Interpretable (XAI and IAI) – ready for future legislation



**Certifications: ISO 27001,
SOC-2, etc.**

07



**Role Based Access
Control (RBAC)**

08



**Multi-factor Authentication
(MFA)**

09



**High availability (99.5%
uptime)**

10



THANK

YOU