Welcome to the #SPorgWebinar



Al in Social Protection









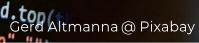












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I am your moderator today

and to start our session ...



Veronika Wodsak

Social Protection Policy Specialist, ILO | DCI

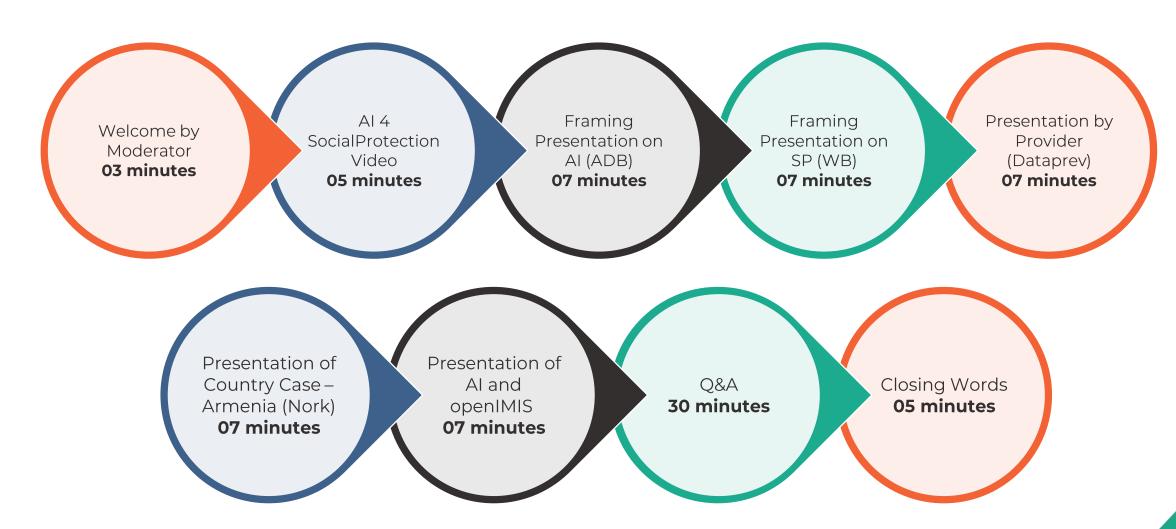
The webinar is a follow-up discussion to a <u>workshop on</u>
Al for social protection in Bangkok in November 2024

It aims to explore Al use in Social Protection Systems: What are the use cases? What is the potential? What are the risks?





Session Flow





Today with us



Speakers

Ozzeir Khan

Director, Digital for Development Operations Division, ADB

Learn more



Mohamed Almenfi

Social Protection Specialist, World Bank | DCI

Learn more



Rodrigo Assumpção

President, Dataprev

Learn more



Anahit Parzyan

Executive Director, Nork

Learn more



Saurav Bhattarai

Component Lead, GIZ | openIMIS

Learn more



Ralf Radermacher

Head of Programme, Social Protection, GIZ | DCI

Learn more





Al Briefing (February 25)



Al - The Cerebral Disruption

Predictive Al

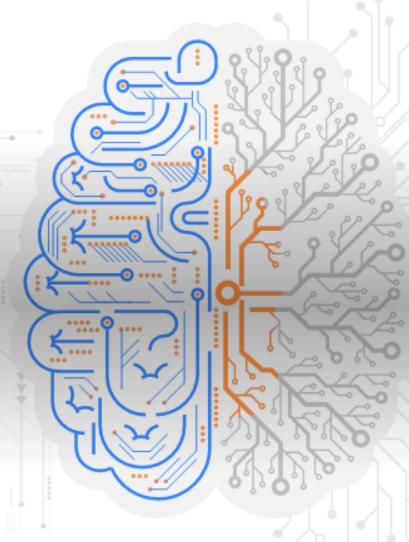
LOGIC

PROBABILITIES

PATTERNS

PREDICTIONS

Algorithms that can study Patterns, categories, assign probabilities and support decision making



Generative Al

CREATIVITY

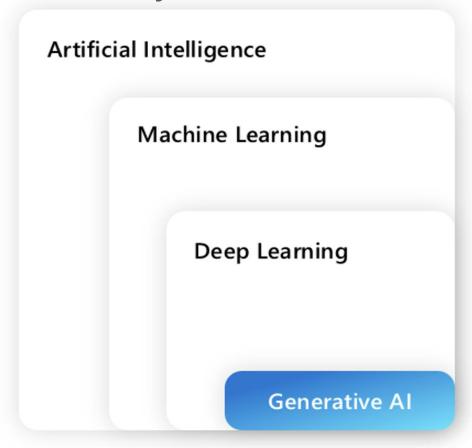
GENERATIVITY

Algorithms that can create content like text and images of human like quality in response to prompts or requests for synthesis

Hacking knowledge of the world and yours through conversations



History of Al



1950s

Artificial Intelligence

the field of computer science that seeks to create intelligent machines that can replicate or exceed human intelligence.

1959

Machine Learning

subset of AI that enables machines to learn from existing data and improve upon that data to make decisions or predictions.

2017

Deep Learning

a machine learning technique in which layers of neural networks are used to process data and make decisions.

2021

Generative Al

create new written, visual, and auditory content given prompts or existing data.

Quick Recap of the AI field

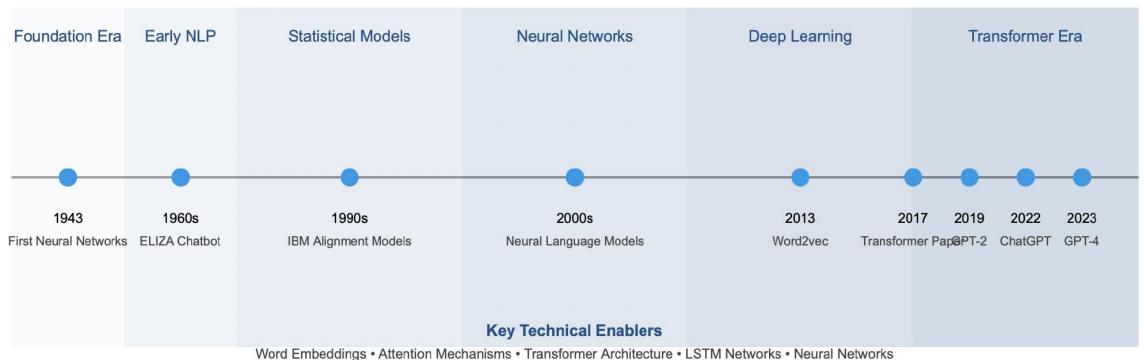
Artificial intelligence AI in its broadest sense is a range of techniques to enable software to approximate human thinking and behaviours. Machine Machine learning learning is a subset of Al and uses advanced algorithms to detect Neural patterns in large datasets to allow software to learn and adapt. networks Natural NLP Neural networks language are machine learning programs that is a subfield of Al that uses Deep process input and generate outputs machine learning to enable processing through interconnected nodes or computers to understand learning artificial neurons. These nodes loosely (NLP) and communicate with model the neurons in a brain. human language. Deep learning General-All deep learning systems are made purpose Al of neural networks. They can recognise complex data patterns. Generative General-purpose Al operates on the foundations of machine ΑI learning and deep learning. It can handle a broad range of tasks. Large Generative Al language Large language models is one subset of general purpose Al and can models generate text, images, video, sound, etc. is a subset of foundation models focused on

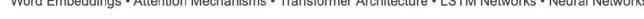
Information Technology Department Innovate. Transform. Deliver.



written text.

Timeline of key events







Al is already changing the way we live, evidenced by impressive capabilities it can already accomplish

Converse like a human on a variety of topics | ChatGPT



Chat GPT passes a Wharton MBA exam

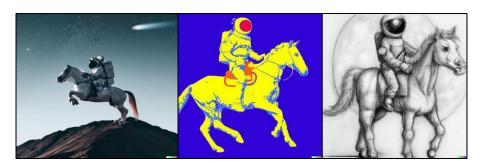
Generate high-quality video clips | Meta Make-A-Video



E.g., a confused grizzly bear in calculus

Information Technology Department Class Innovate of Transform pe Deliver cogle, Medium

Create images of different styles from text | DALL·E 2



E.g., an astronaut riding a horse

Compose music across instruments & genres | Google MusicLM



E.g., fast-paced and upbeat arcade game soundtrack

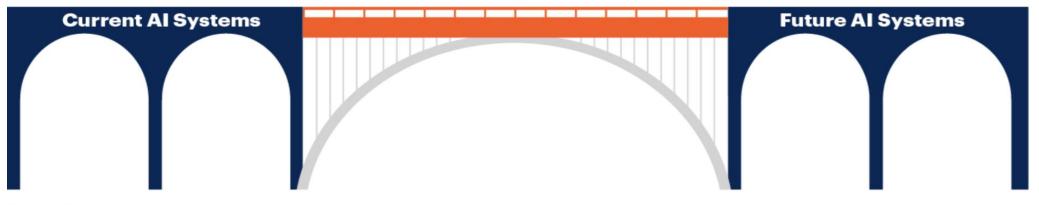
Closing the Al Agent Gap

- Require strong supervision
- Execute simple tasks
- · Static behavior



AI Agents

- Act autonomously
- Execute complex goals
- · Adaptable behaviour



Source: Gartner 806843_C

Gartner.



OpenAl Imagines our Al Future

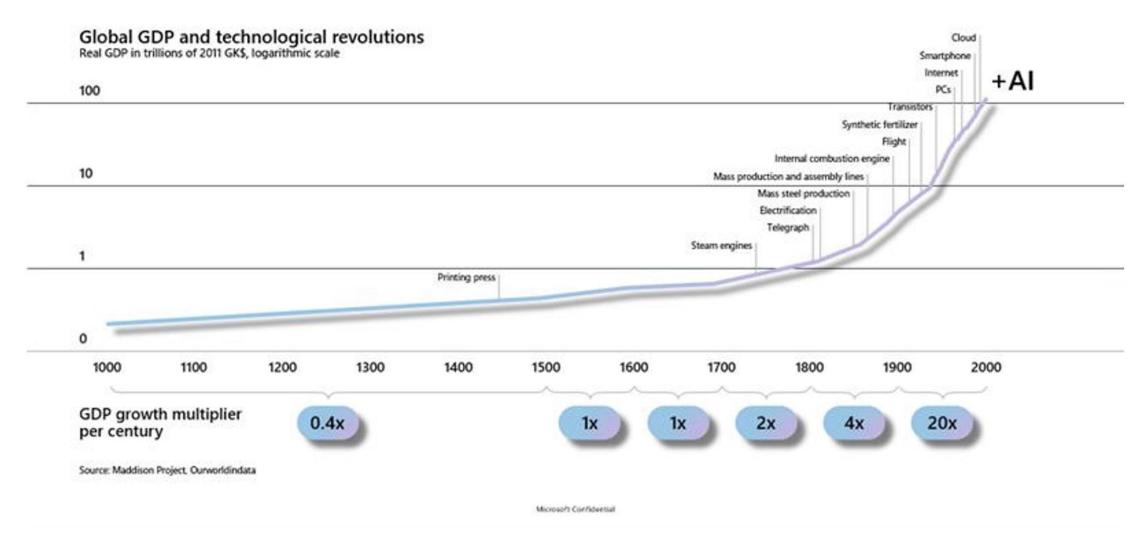
Stages of Artificial Intelligence

Level 1	Chatbots, Al with conversational language
Level 2	Reasoners, human-level problem solving
Level 3	Agents, systems that can take actions
Level 4	Innovators, AI that can aid in invention
Level 5	Organizations, AI that can do the work of an organization

Source: Bloomberg reporting

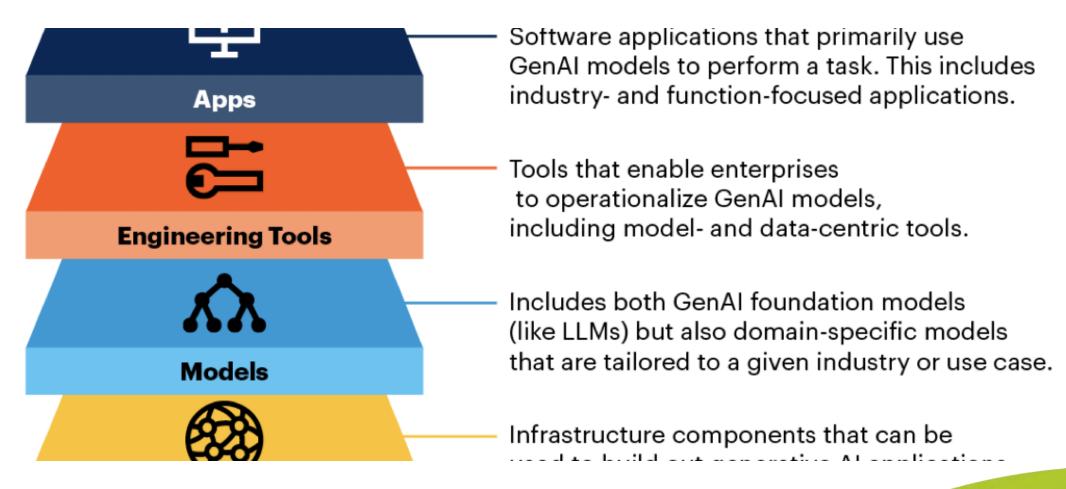


Technology's Impact on GDP Growth is Accelerating



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Al Tech Stack





Harder to show ROI

GenAI Strategy

ROI vs Maturity

Knowledge Chat

- Internal policies chat
- IT & HR support chat
- · Legal Documents retrieval system
- · Industrial chat for engineering documents

Personal Productivity

- Document Summarisation & Insights
- Content Creation (emails, images)
- · Enhanced Learning & Research



For Technology Mature **Organisations**

For Any Technology Maturity

Client facing chatbots

- Banking / Financial Advisors
- · Customer Support
- Insurance claim assistants
- Travel booking assistants

INTERNAL This inform

Prospect Facing Chatbots

- Lead qualification bots
- Product discovery & recommendation bots
- Event & Demo scheduling bots



Easier to show ROI

with appropriate permission

Agentic Workflows

- Financial Reporting & Compliance Audits
- End to End customer support resolution
- · Preventive maintenance planning
- Marketing campaign management
- Customer onboarding
- Sales proposal generation & customisation



"If you are still at the POC stage, then you're already 18 months behind"

-- Panel discussion at The Association of Banks in Singapore (September 2024)



Beyond personal experiences, AI has been leveraged to improve development outcomes across topics

Al advancements are changing how DMCs approach development challenges



Climate

Lighthouse project: GIS-enabled Coastal Embankment
Bangladesh mitigated climate hazards for ~400K people by using a geographic information system (GIS) platform



Agriculture

Lighthouse project: Smart IoT & AI-based Agri-Solution
Smart agriculture in India increased yield by 7% and reduced
costs by 8%



Energy

Lighthouse project: Smart Power Grid Improvement
Laos reduced electricity losses from 24% to 14% with smart
metering and grid improvements



Finance

Lighthouse project: Digital Currencies

Bahamas increased payment card usage by 203% with a digital currency



Trade

Lighthouse project: Al-enabled National Single Window
Bangladesh simplified 8M transactions annually from automated
customs clearance

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Education

Lighthouse project: EVOKE blockchain-learning
Increased course completion rates from 10-40% with blockchainassisted learning



Healthcare

Lighthouse project: CDC Data ModernizationAnalytics and electronic reporting **saved 160K staff hours** from real-time disease surveillance and data modernization



Transport

Lighthouse project: AI Road Asset ManagementGeorgia **reduced road maintenance costs by 60%** with AI road asset management



Urban Development

Lighthouse project: Virtual SingaporeSingapore **saved 3000 resource days and costs** from creating a digital twin

Al transformation will play a key role in supporting these 4 shifts



Climate Change





Private Sector





Solutions



Select examples; non-exhaustive



Ways of Working



Al transformation

- Develop Al-powered assistant in analyzing and recommending climate financing solutions
- Support modeling of climate scenarios, risks, and impact

- Create pitch books for private sector clients
- Create technical designs for future infrastructure projects
- Highlight areas to review initial customized contracts

- Support research & publications to establish thought leadership across sectors & themes
- Support economic analyses and modeling (e.g., LLM for inflation forecasts)

- Build on-demand support chatbot
- Conduct research from internal database and retrieve most relevant documents
- Synthesize real-time meeting transcripts into key points

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Al Opportunities in Health Care and Social protection





Automatic medical image interpretation, providing medical advisory to doctors and detects any fraud or overtreatment which could trigger on-site investigation

Source: HIRA

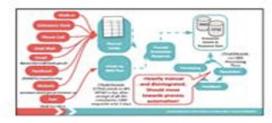
Wound imaging, assessment and monitoring



Al-enabled tool on mobile application will automatically measure, assess, and monitor wounds within a second.

Source: Tetsuyu

Automatic Grievance Redress System in Philippines



Automated grievance handling and classification, offering personalized support and audioto-text filing via mobile phone for accessible use by illiterate individuals.

Source: Department of Social Welfare and Development of Philippines, ADB

ADB

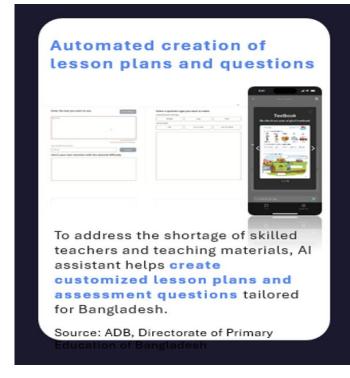


Al Opportunities in Climate and Disaster Risk management





Al Opportunities in Education







Roleplay real-life situations with a virtual teacher to improve your speaking & listening.

Source: HolonIQ

Create children's books in Mali.

















Uses ChatGPT to create children's books with stories and illustrations that are true to the lives of Malians, along with supplementary teaching guides.

Source: RobotsMali

ADB



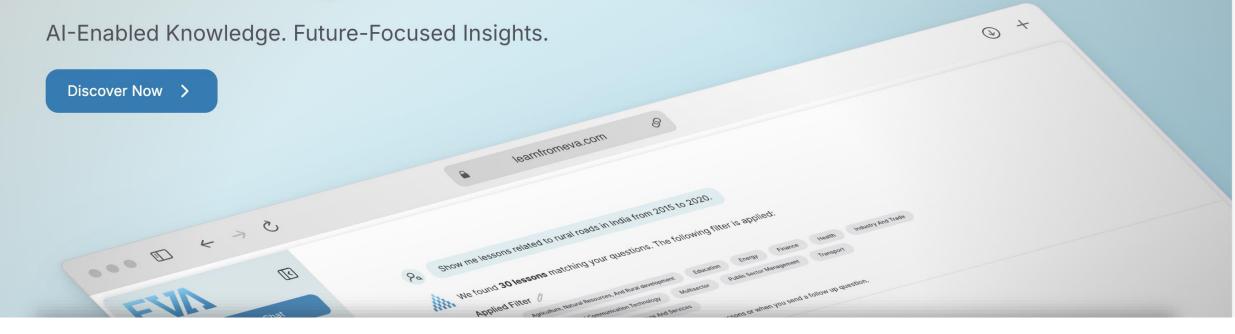


AI@ADB
Digital Products for Good

FUTURE-READY SOLUTIONS



Unlock Development Lessons with Artificial Intelligence



Explore EVA by visiting: https://www.learnfromeva.com/ Available from 2nd Dec 2024 Exploring and Accelerating the Adoption of Artificial Intelligence for Social Protection

Mohamed Almenfi Social Protection Specialist World Bank





Understanding and Harnessing AI's Potential for Social Protection

"The dawning AI era requires a new playbook for economic policy making to harness the potential and manage the effects of technological disruption."

"Low- and middle-income countries are formulating AI strategies to accelerate safe and inclusive AI adoption, with a focus on building infrastructure, developing digital skills, and adopting AI solutions."

Source: World Bank Digital Progress and Trends Report 2023

- Explosive and expansive progress in recent years on Artificial Intelligence technology (large language models (LLMs), generative AI, etc.)
- The World Bank is gearing up to leverage this technological revolution – several AI-focused projects and initiatives planned and underway
- Adoption of AI across sectors such as health, education, tax administration is advancing rapidly – Social Protection not far behind

Our motivation – to stay ahead of the curve with regards to exploring and accelerating AI for Social Protection



A diverse set of countries

Enhancing SP delivery systems

By leveraging various Al capabilities

Country	Al Application for SP	
Colombia	Social registry data accuracy	
Ecuador	Proxy-means testing	
Brazil	Fraud detection – Social Registry and Social Insurance Assessments	
Ghana	GhanaNutrition Tracking and Dietary Needs AssessmentsTongaGrievance redressal mechanismsIndiaBeneficiary De-duplication, constituting family units in social registry (Odisha), Al-assisted data updates (Rajasthan)ItalyGenerative AI to support responses for queries from potential applicants / beneficiaries	
Tonga		
India		
Italy		
Estonia, Ukraine, Argentina	Job-Matching Algorithms	

Natural language processing

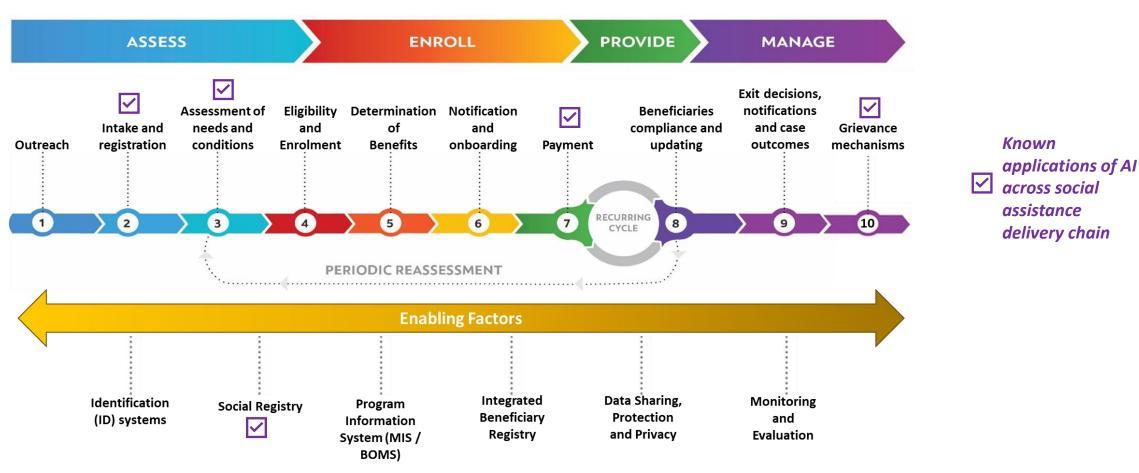
Conversational agents

Modeling and simulation

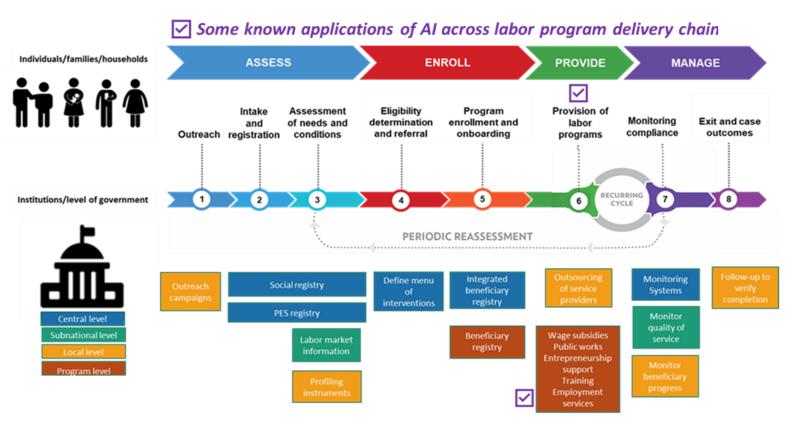
Intelligent process automation

Predictive analytics

Yet the potential for application across the social assistance delivery chain remains largely untapped -



This is also observed across the labor program delivery chain -

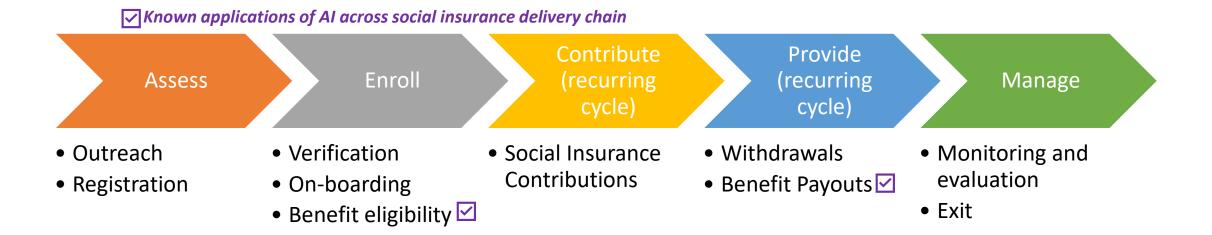


Argentina, Estonia, and Ukraine leverage AI for job-matching algorithms on job-matching platforms

Source: Concept note - Delivery systems for labor programs in lower- and middle-income countries

And the social insurance delivery chain (re-imagined to include contributions)

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Brazil leverages AI for fraud detection in social insurance administration

Source for figure: Adapted from Making Pension Savings Easy and Efficient for Informal Sector Workers - Learning from Kenya's Haba Haba Pilot

Al holds significant potential to address challenges and leverage opportunities across the delivery chain (not exhaustive) -

Delivery chain stages	Challenges / Opportunities	Potential AI applications
Outreach	- Customized outreach and dissemination	 Generative AI for developing outreach material
Intake and Registration	Data matching across administrative / program databasesRegistration complexity	Al for matching across databasesAl chatbots for assisted registration
Assessment of needs and conditions	 Working with out-of-date or incomplete information / fraud detection 	 Predictive analytics to impute income, consumption and asset information
Eligibility and Enrollment	 Fair and transparent application of eligibility criteria / fraud detection 	 Al for fraud detection Al-assisted process automation for eligibility determination
Determination of benefits	- Customized benefit level / service mix determination	 AI-assisted determination of benefits based on assessment of needs and conditions

AI holds significant potential to address challenges and leverage opportunities across the delivery chain (Contd.) -

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	Delivery chain stages	Challenges / Opportunities	Potential AI applications
ENROLL	On-boarding and notification	Information asymmetry during on- boarding (particularly for waitlisted / rejected applicants)	 Generative AI for on-boarding material and AI process improvements to provide automated notifications
PROVIDE	Provision of benefits / - services	Resource planning Timely and accessible payments and services	 Predictive analytics and modeling for resource planning Al-based fraud detection for efficient payments
MANAGE	Beneficiaries - compliance, updating, and grievances -	Accessibility challenges for grievance mechanisms Delays in grievance processing	 Al-supported process improvements to streamline grievance mechanisms Al-supported data updates leveraging interoperability
MAN	Exit decisions, notifications and case outcomes	Fairness, transparency and timeliness of exit notifications	- AI-supported process automation for timely processing of cases

As we advance the digitalization of social protection systems, we recognize Al's transformative potential

A leap ahead

 Leveraging AI to further enhance efficiency & impact of SP delivery systems

A step forward

 Progress with establishing functional and foundational blocks of SP delivery systems

Establishing

the base

 Interoperability to enhance data accuracy, error & fraud detection, service delivery and shockresponsiveness Responsible and safe adoption of AI can help transform the design and delivery of social protection delivery systems -

- + Streamlining business processes
- + Leveraging data more efficiently
- + Improving citizen service delivery
- Enabling further customization of SP services and benefits



WEBINAR

AI in Social Protection

Presentation Solution Provider

Rodrigo Assumpção

President of Dataprev







Organize the social data hosted by government to make it accessible and useful to society.

Vision

Improve peoples lives with technology that empowers social policies and the National Data Infrastructure.

State-owned company

3 data centers
Tier III certificate design,
facilities and operations

3.427 employees

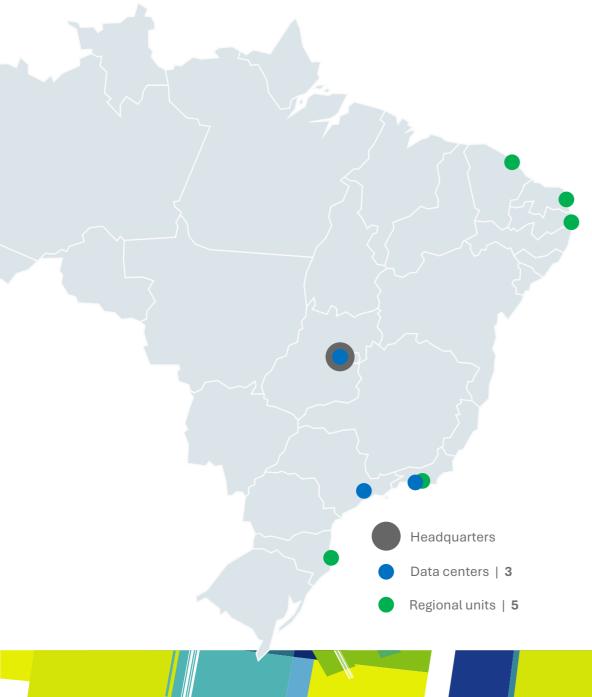
+400 social security, assistance and labor services

+44.9 billion

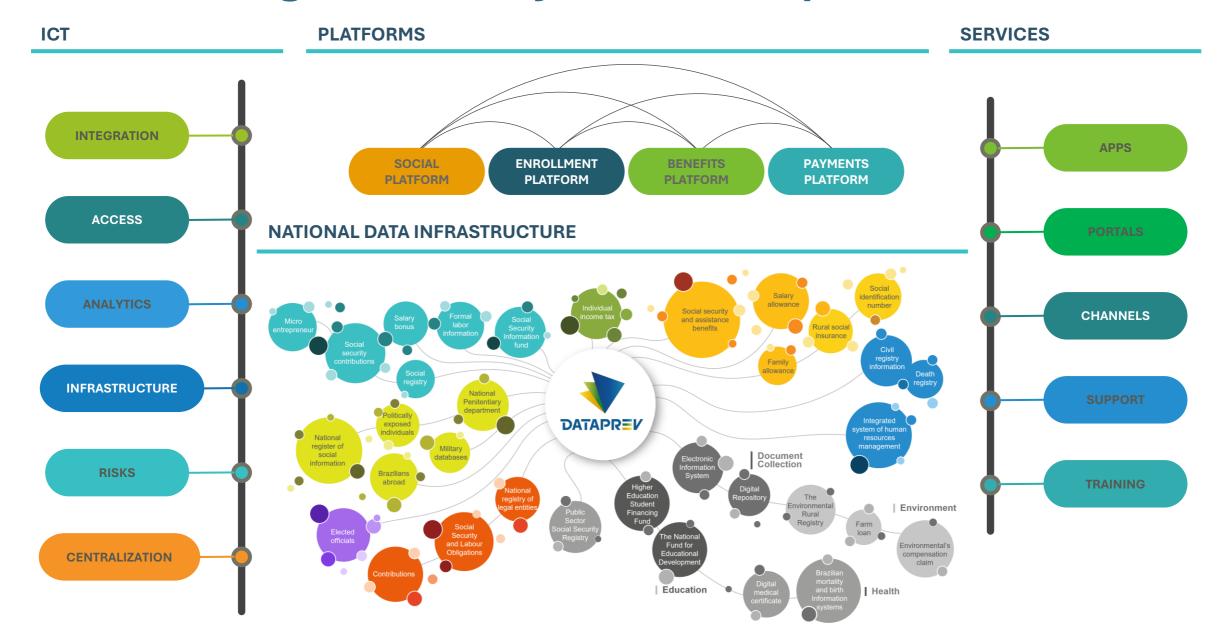
records in its databases

+140 million accesses to digital services monthly

02/2025



Transforming structural systems into a platform



Data and benefits qualification program

Centered on dimensions by information characteristics

Identification

- Valid and active tax number
- Consistent date of birth
- Correct mother's name
- Death registry



Address and Location

- Residential
- Work
- Informed by employer
- Self-declared in government records

Income composition

- Formal income
- Informal remuneration
 - Benefit remuneration
 - Wealth accumulation

Family Group

- Affiliation
- Family members
- Civil relationship
- Coexistence of members between families
- Relationship with pension

Labor Information

- Formal employment
- Informal activity
- Self-employment

Artificial Intelligence

OPPORTUNITIES

- BUSINESS PROCESS ACCELERATORS
- DECISION MAKING AGENTS
- RISK ANALYSIS
- BUSINESS INSIGHTS

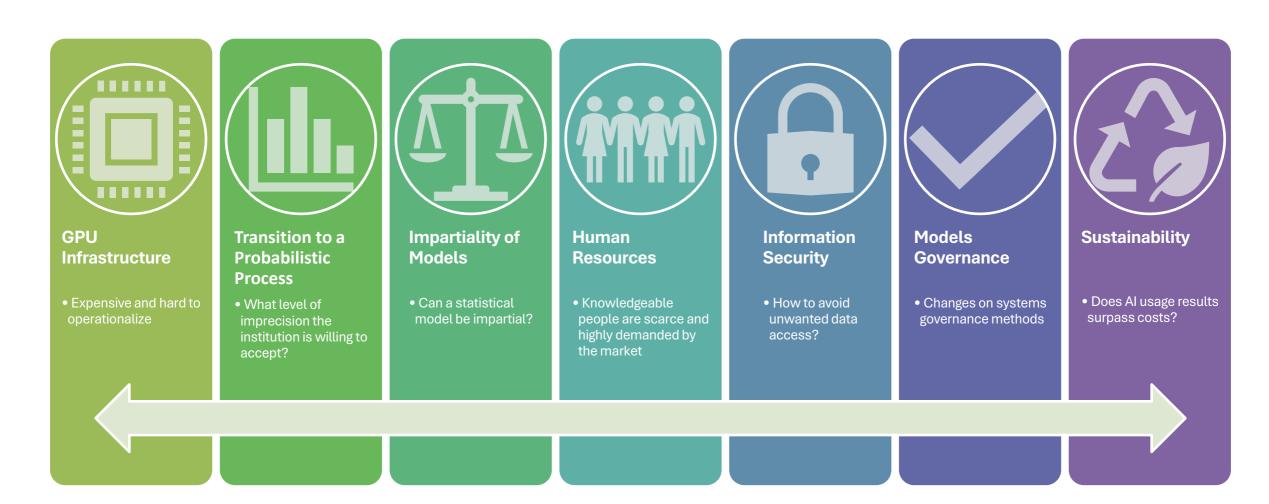
CHALLENGES



QUALIFIED DATA

AI APPLICATIONS ARE ONLY AS GOOD AS THE DATA THEIR MODELS HAVE BEEN TRAINED ON!

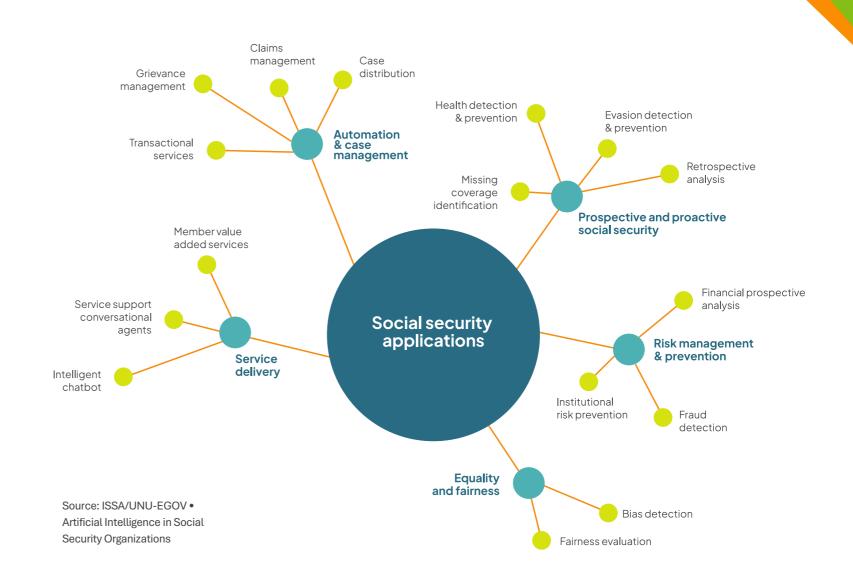
Challenges on Artificial Intelligence



Al applications in social security

A new report released by the International Social Security Association (ISSA) examines the growing use of AI in social security, that has accelerated over the last few years.

Al has already shown how it can significantly increase capacity in different dimensions, to improve internal operations as well as service delivery.



EmpregAl – Smart Employability

Optmize the intermediation flow and elevate workforce employability

Recommendation of companies with high potential for job positions availability



Workers unemployed



Data

IMO (Workers and job positions),
eSocial (hirings and lay-offs),
Deaths, CTPS Digital



EmpregAl makes personalized recommendations



Job Position Recommendations received by worker through CTPS Digital



Selection Process with recommended workers

Qualified job position recommendations to those workers



Companies that hire the most



Data
IMO (Workers and job positions),
eSocial (hirings and lay-offs),
Deaths, CTPS Digital



EmpregAlmakes personalized recommendations



Potential Employer Recommendation Received by SINE Agent



Collection Process of job positions with recommended companies

61% +Companies

more active companies after the beginning of assertive recommendation

+7 Job Positions

In average per company after EmpregAl (before: 4,6) +4 Million Workers

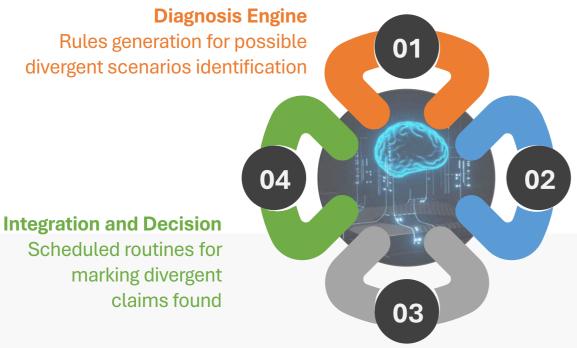
notified by CTPS Digital

2,6% +Jobs

Increase in efficiency on intermediation (before: 1,85%)

DMS – Decision Making Support

Classify claims with potential for automation, reducing response time to citizen.



Diagnosis Dashboard Visualization rules impact on backlog and new claims

+5M Claims

Processed automatically until 09-2024 (2023/2024)

+3,4M Claims in 2024

(**+294**% in comparison with 2023) from 01/2024 to 09/2024

Score

Scoring system for inference and decision probability



Backlog



Data PAT, SUIBE, SABI, CNIS, PF, PJ, SE, CI,

ED, GFIP, eSocial

Uses CD and AI to identify blocking divergencies for task analysis

DMS



Workflow Receives the divercgence and runs automation



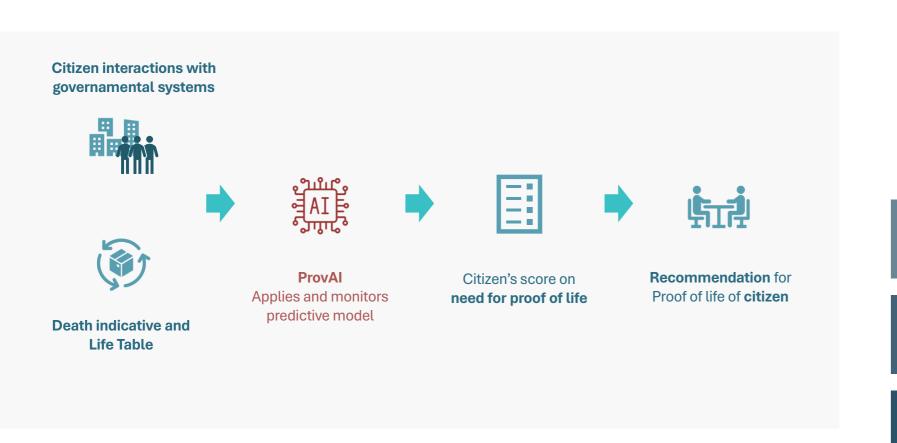
Citizen





PROVAI - Smart Proof of Life

Identify the probability of a citizen being alive, qualifying the need for him to prove it.



14.4M beneficiaries analized with proof of life required

Need for Proof of Life Score

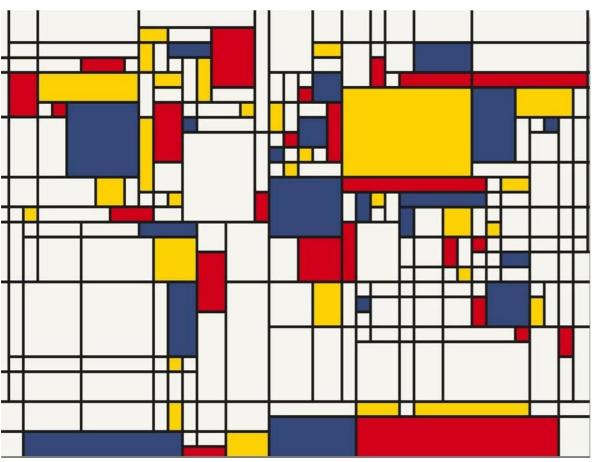
Below 50% 4.36M 30% beneficiaries

50% 80% 9.94M 69% beneficiaries

Above 80% 157Mil 1% beneficiaries

Digital Transformation

How we think it should be...



How it often is...



Q&A

Rodrigo Assumpção

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- dataprev
- dataprev
- dataprev-tecnologia
- dataprevtecnologia



WE CREATE LIFE CHANGING PLATFORMS

Dr. Anahit Parzyan

Executive Director

"Nork" Technology Center



WHO WE ARE





- 1. 24 years leading technology center for Labour and Social Protection (SP)
- 2. 60%+ active beneficiaries of the RA population
- 3. 44+ designed information systems and platforms
- 4. 21,100+ pieces of computer-related equipment
- 5. 24 years of educational projects

STANDARDS 2025-2026







WHAT WE DO

Innovating Tomorrow, Today



Maintenance, design and development of SP digital services and platforms



Data analytics



Business process analysis



IT support



Educational programs development and implementation



CyberSecurity



HOW WE DO IT?



Digital by default



Secure by design



Human centric



Privacy by design



Intuitive user experience

Our Recent Products (Portfolio)



Social Protection Sector Digital Transformation



Person's Functionality Assessment Platform



Centralized registration system of the cases of domestic violence



Work Without Borders"
Unified Search Platform:
Republic of Armenia - EAEU
Collaborative Platform



Labor Platform



Durable Housing Solutions



Unified Information
Platform for the Social
Protection Sector



Unified Rapid Response Platform



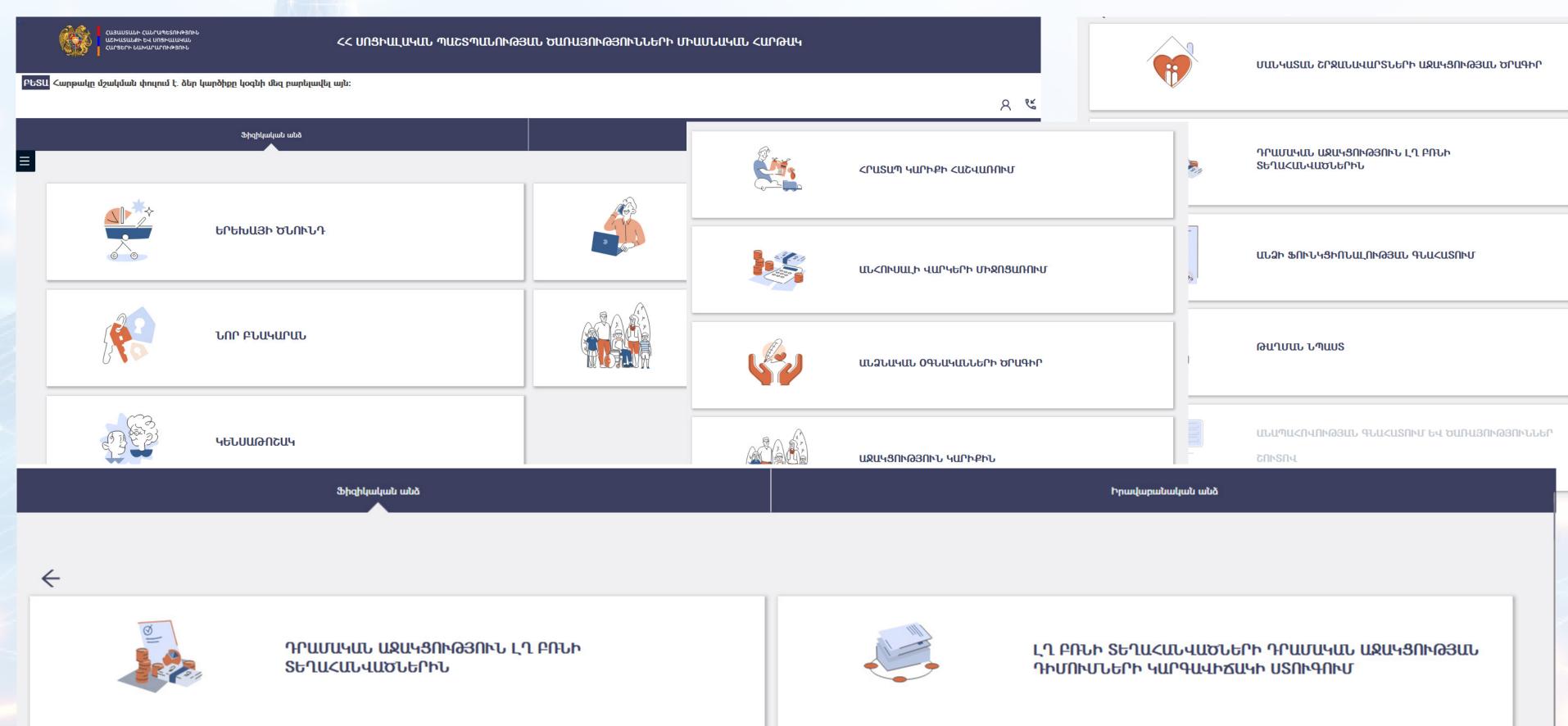
Social assistance program to support the accommodation and living expenses of forcibly displaced persons from Nagorno-Karabakh.



Family Vulnerability Assessment Platform

e-social.am





E-DISABILITY Person's Functionality Assessment Platform

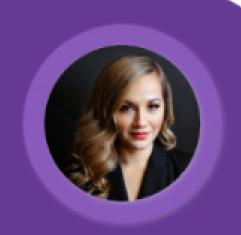






Labor Market Platform





Է. փոստ borsanewga@yopmail.com

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Կրթություն

Կենտրոն, թիվ 1, ՄԱՔՍԱՆԵՆԳ 2024 - Առ այսօր

Հաշմանդամություն

Πş

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- Դասընթացի անվանումը, Դասընթացի անվանումը 2024 - Առ այսօր

Մանուշ Մաթևոսյան

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Integrated digital labour market

Authentication and identification

Accurate data

Algorithmic matching system for employees and employers

Online CVs and invitations

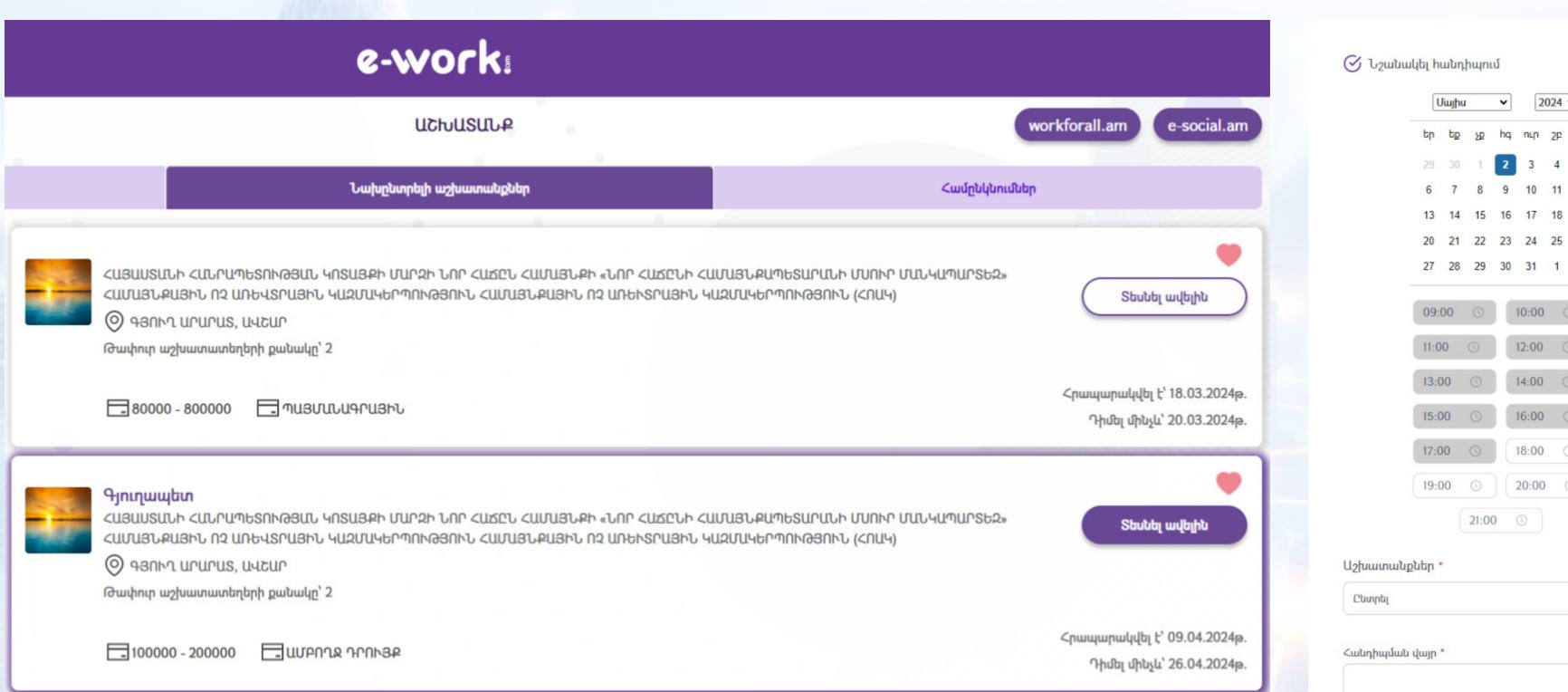


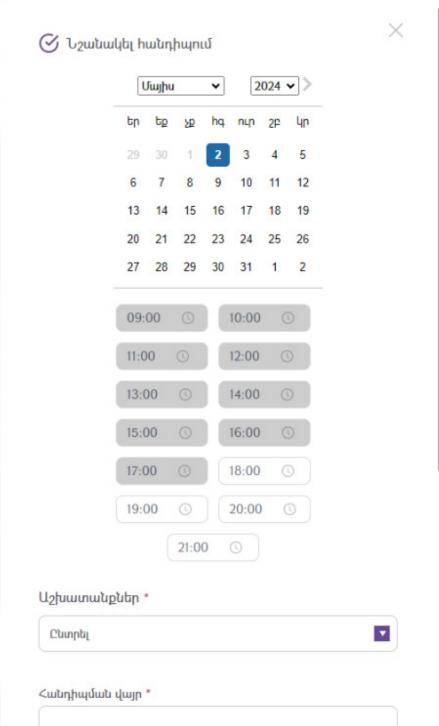




Labor Market Platform







Artificial Intelligence (AI) in the Social Protection Sector

Key Functions of the System



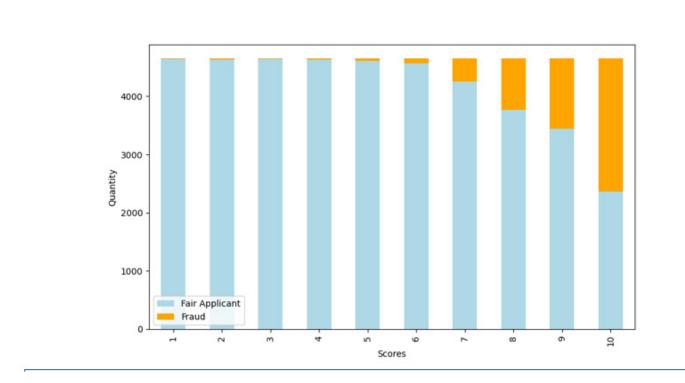


Identify beneficiaries who will exit social assistance programs in the event of income growth.

Segment social assistance beneficiaries to uncover hidden trends.

Assess the effectiveness of employment programs.

Detection of Fraudulent Applications: Fraud Index

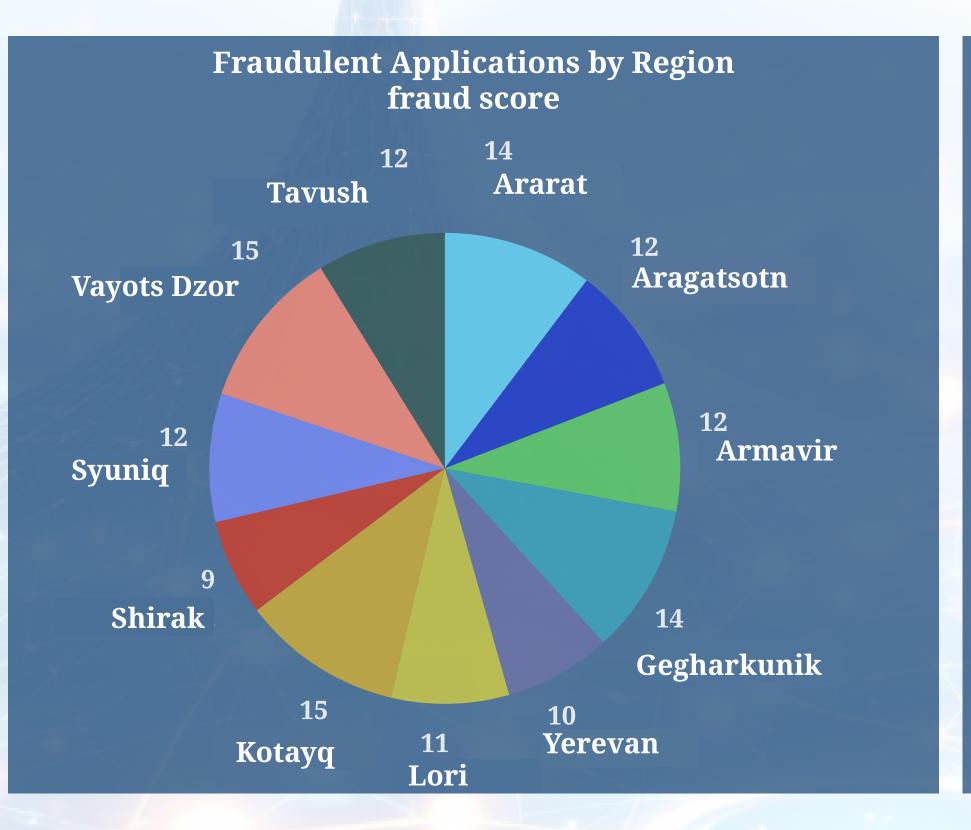


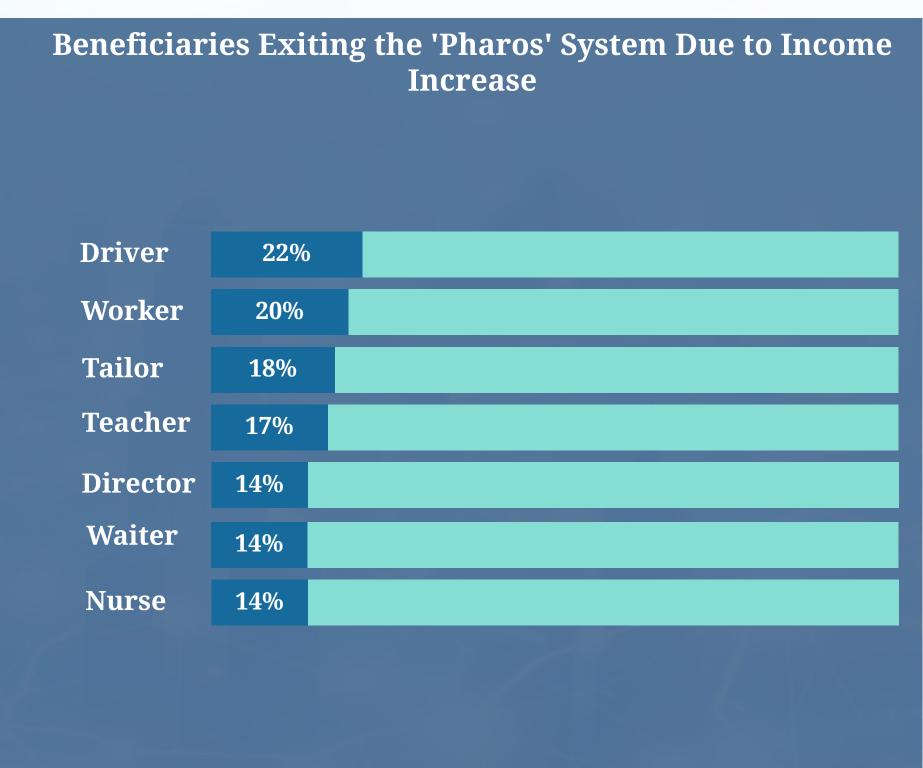
The higher the index, the greater the likelihood of fraud.

Index	Fraudulent	Non- Fraudulent
1	11%	0%
2	11%	0%
3	11%	0%
4	11%	0%
5	11%	1%
6	11%	2%
7	10%	8%
8	9%	18%
9	8%	24%
10	6%	46%



Artificial Intelligence (AI) in the Social Protection Sector







Unified Rapid Response Platform

hratapkariq.am











Այս հարթակը նախատեսված է հրատապ արձագանք պահանջող իրավիճակներում առաջնային կարիքներին արձագանքելու համար։

Կարիք ունեմ Աջակցում եմ Ուղեցույց

Եթե վերջին 72 ժամվա ընթացքում տուժել եք այնպիսի հանկարծահաս ճգնաժամերից, ինչպիսիք են՝ բնական, կլիմայական, տեխնոլոգիական աղետները, ռազմական գործողությունները կամ կյանքին, առողջությանը վտանգ սպառնացող այլ իրավիճակներ, և ունեք հրատապ արձագանքի կարիք Ձեր առաջնային կարիքները բավարարելու համար, ապա կարող եք օգտվել այս հարթակից։

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Support Categories



Food



Clothing



Footwear



Support Measures



Medication



Hygiene Items



Household Items



Bed/Mattress



Care



Psychological Support



School Supplies



Diapers/Sanitary Pads

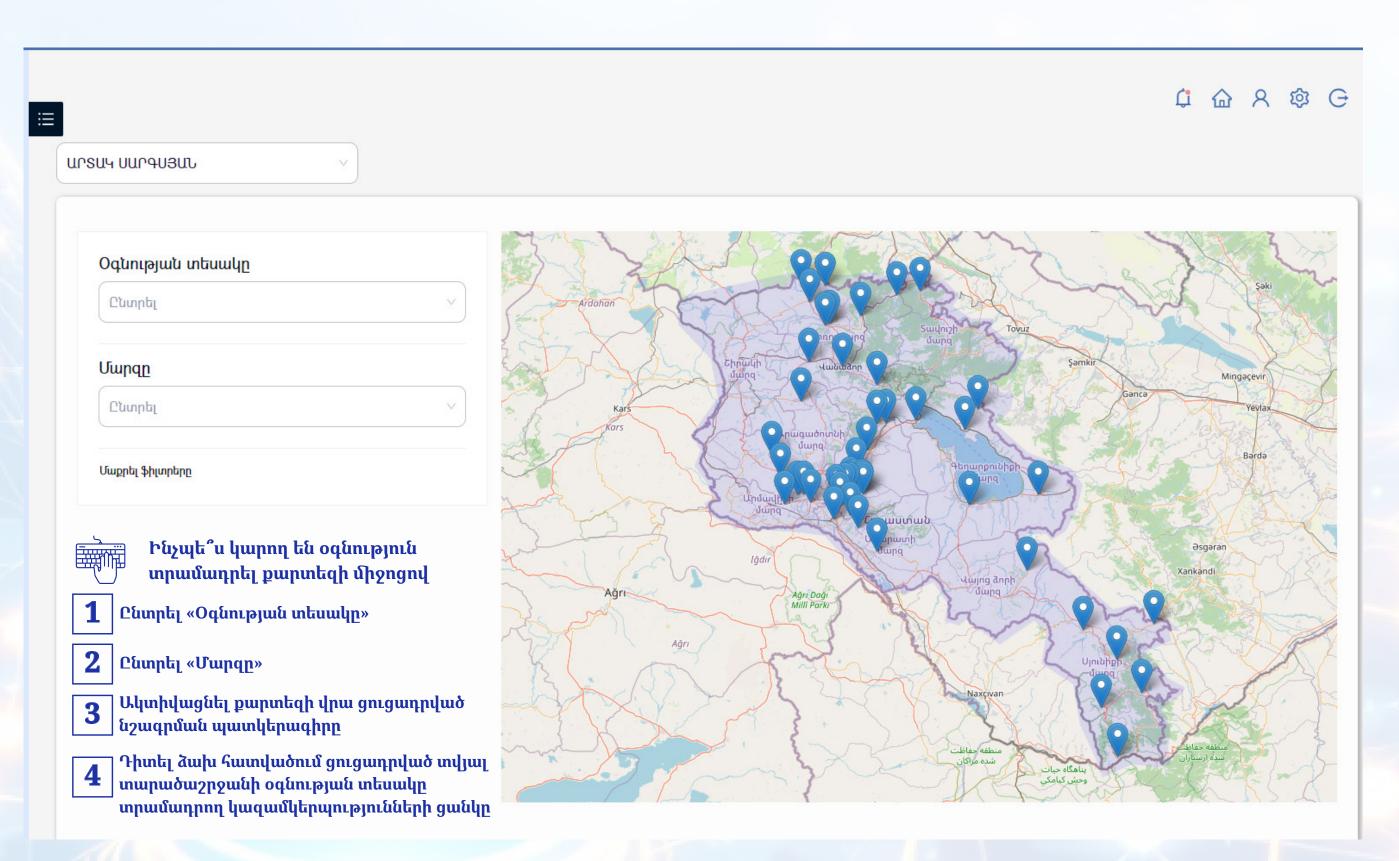
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Through social support mapping, organizations and individuals will be able to consolidate existing resources, while social workers of the Unified Social Service will plan their distribution based on the identified needs.



MAINTENANCE OF COMPUTER HARDWARE, NETWORKS AND RELATED EQUIPMENT







Hotline and ERP System







Maintenance of Computer and Related Equipment for the RA Ministry of Labor and Social Affairs, Unified Social Service and its 49 Regional Centers



24/7 Service



21,107
pieces of serviced equipment



3,483 charged cartridges



2,713 unetwork installations and maintenance



Thank you!





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Digital Public Goods

- Open Source Software & Knowledge Products
- Supports sustainability of digitalization efforts
- Community led, Community supported

The case for AI DPGs

- Limited AI expertise
- Expensive
- Developing AI DPGs allow for
 - Sharing knowledge
 - Not having to build from scratch



openIMIS AI Module

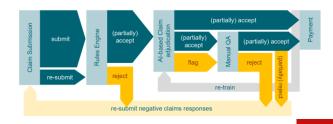
Problem: large amount of health insurance claims to be reviewed by human reviewers

Solution: Standalone module, using AI methods of machine learning, to support reviewers in reducing time taken for claims adjudication

Built as a Digital Public Good

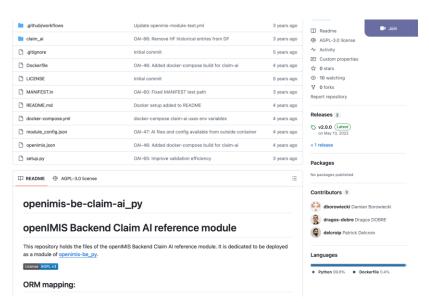
- Open source
 - Code
 - Methods, logic
- Fully Documented
- Ready to use as is OR Build upon further





openIMIS AI Module

Basis to build upon further

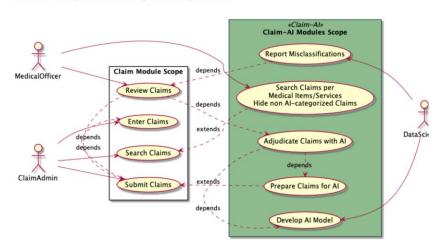


Title of the presentation

Complete source code available on openIMIS respository

Claim Al-based Adjudication System

In the Claim-Al project, we are covering the following use cases.



Complete documentation available on openIMIS wiki

Demystifying AI DPGs

- Can I use the openIMIS AI Module without using the rest of openIMIS?
 - Yes! The module is designed to be interoperable using standard interfaces and can be used without the remaining modules of openIMIS
- Do I need to send my data to openIMIS to use the module?
 - No! You will deploy the module on your infrastructure, with you having all rights to it.
- Can I enhance the module for my specific use case?
 - Yes! Absolutely.
- Can I use the module for other use cases than claims categorization?
 - Yes!
- Do I have to publish my enhancements publicly as well?
 - We highly encourage you to that is the whole point of building DPGs!





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Thank you for joining!

Make sure to answer our survey, available when you leave the session, and join us for the next webinars!

Al in Social Protection