



Integrated Digital Platform for Industrial Safety and Occupational Health:

- **Behavioral Safety Audits (BSA), Risk Hunting (RH), Root Cause Analysis (RCA), Corrective Actions**
- **PPE Management**

October, 2025

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Industrial Safety and Occupational Health (ISOH) Digital Platform

Behavioral Safety Audit (BSA)

Risk Hunting (RH)

Root Cause Analysis (RCA)

Corrective and Preventive Actions (CAPA)

PPEs Management

Industrial Safety and Occupational Health (ISOH)

Project Objectives

Creation of a Unified Digital ISOH Management System

Ensuring incident prevention and effective risk management for the health and safety of employees

Ensuring PPE Availability and Compliance

Providing personnel with PPE in accordance with standards and enabling optimal budgeting for PPE management

Fostering a Culture of Employee Commitment

Strengthening engagement and shared responsibility for occupational health and industrial safety

Project Tasks

1

Solution Replacement

For modules Behavioral Safety Audit, Risk Assessment, Root Cause Analysis, and Corrective Actions

2

Development of the PPE Management Module

Maintenance of PPE norms, personal employee cards, and movement tracking

3

Reporting Standardization

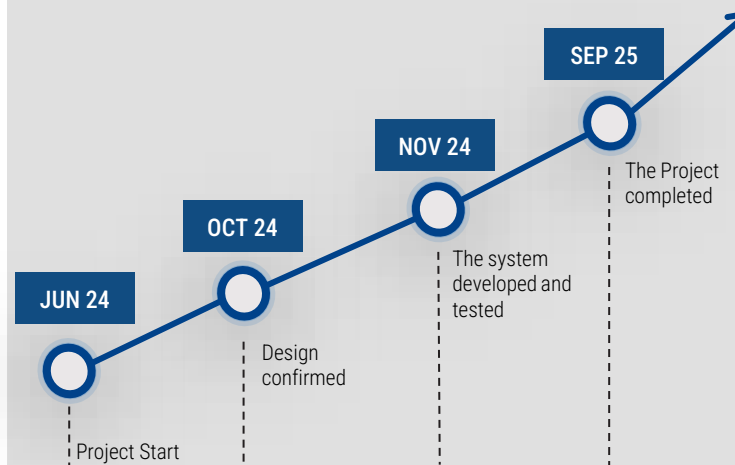
Establishing a unified approach to data collection and analysis

4

Integration with SAP S/4HANA

Eliminating manual data entry through automated synchronization

Project Timeline



Overall timeline – 16 months

Project Architecture

Integrated Digital Platform for Industrial Safety and Occupational Health is installed on the central server at the company's HQ in Almaty. Access for all mining and processing plants (MPCs) is provided through a single secure channel, without the need for local installation.



Advantages:

- Unified system updates and maintenance
- Enhanced security and access control
- Reduced costs for local infrastructure
- Centralized data collection and analytics
- Rapid scalability across new production sites

Industrial Safety and Occupational Health (ISOH)

Automation of ISOH Processes Implemented



Behavioral Safety Audits

Risk assessment

Actions

Incident Investigation and Root Cause Analysis

Accounting of PPEs

Planning and recording hazardous and safe aspects of employee behavior during work activities, identifying risks and potential hazards

Planning and conducting workplace risk assessments, developing risk matrices, defining current and planned risk control measures, and visualizing assessment results

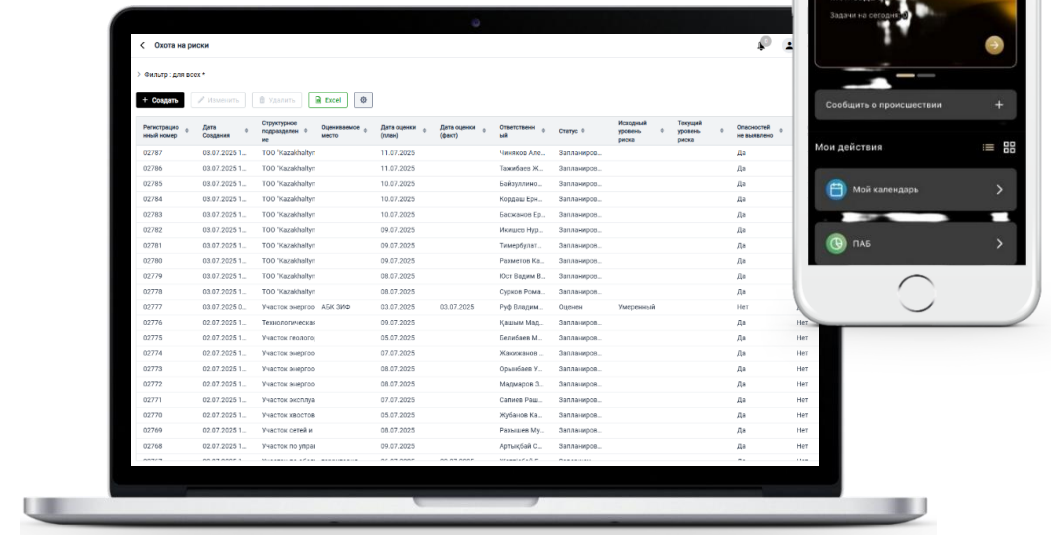
Registration, step-by-step investigation, and root cause analysis of incidents using the "5 Whys" methodology

Setting, monitoring, and tracking the implementation of corrective and preventive actions, including those based on the results of BSA, RH, and RCA activities

Maintaining PPE standards by job position, managing personal employee cards, integrating with labeling equipment, performing PPE issuance operations, and integrating with SAP S/4HANA for demand planning.

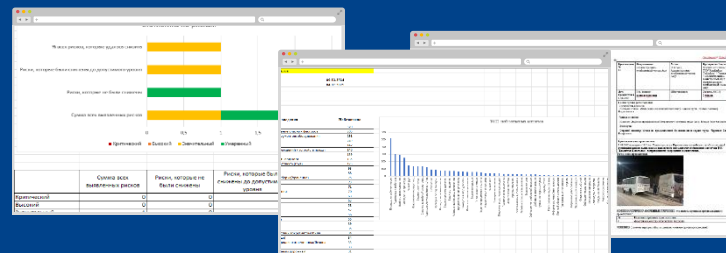
Options on system access

The solution is available in both desktop and mobile versions, allowing users to work with the system in the office and in the field, promptly record events, and monitor HSE processes in real time



Automated reporting

An automated reporting mechanism has been implemented — data is generated in real time based on system information, without manual collection or processing. This increases accuracy, reduces labor costs, and ensures report relevance..



Key Implementation Indicators

Implementation indicators (without PPEs)



December 2024 – July 2025

70%

650 target users trained

920

unique system users

304

mobile app installations

133

Active mobile app users

7 939

Safety Audit Records

4 138

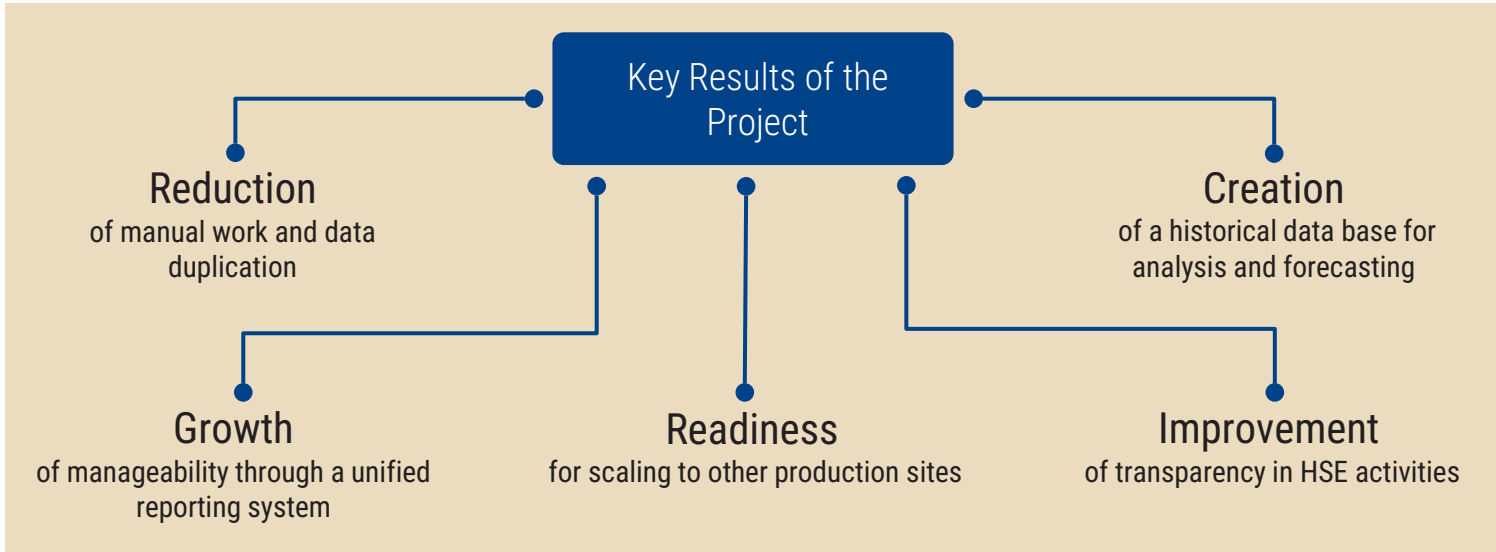
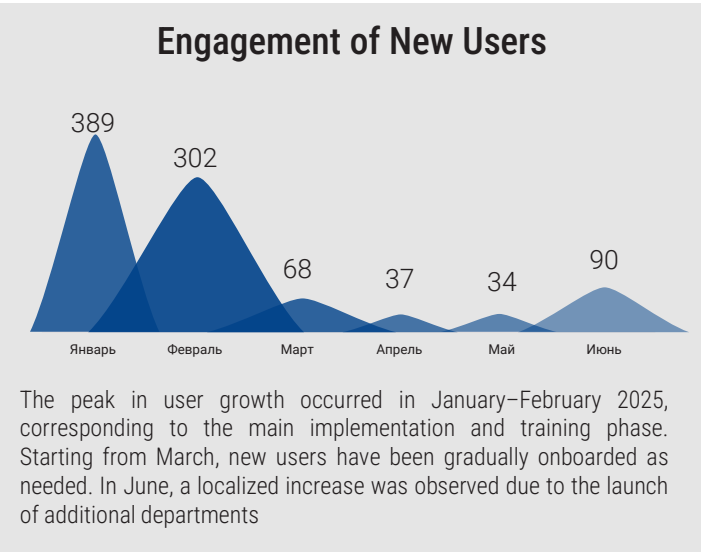
Records on Action

399

Records on Risks

63

Incident Records



Accounting of PPEs

Pilot part of the project, implemented at MPC Pustynnoye

PPEs Management

1

RELEVANCE OF THE ISSUE

- Previously, PPE tracking was performed manually using paper records
- This led to data duplication, errors, lack of transparency, and difficulties in monitoring PPE availability and planning future needs
- The transition to digital accounting became a key requirement for improving both efficiency and safety

2

MAIN OBJECTIVES

- Implementation of personal employee cards incorporating anthropometric data
- Automation of PPE standardization and issuance processes
- Integration with SAP MM, SAP HCM, and Access Control (ACS) systems
- Real-time tracking of PPE movement after issuance
- Optimization of procurement and budgeting processes

3

KEY RESULTS

- Transparent tracking of PPE movement;
- Reduced time for accounting and reporting;
- Ability to forecast PPE demand;
- Integration of PPE management into the overall Occupational Health and Industrial Safety system

PPEs Management

Uniqueness of the solution

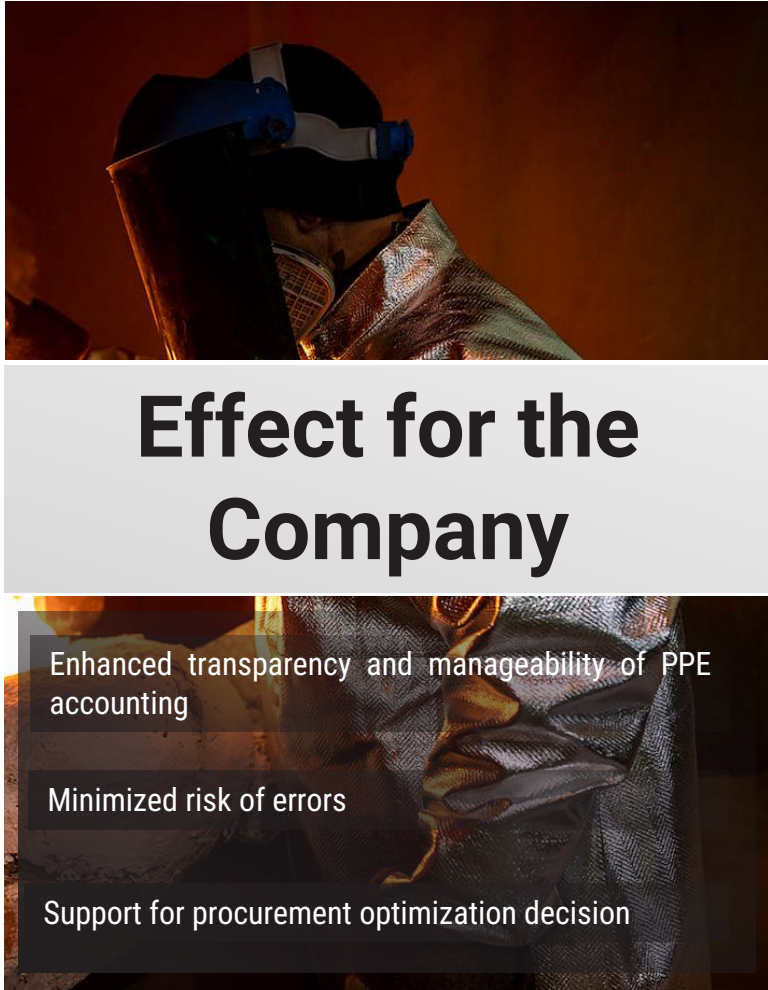


Complete digital PPE management cycle — from anthropometric data and issuance to demand planning

Integration within a unified ecosystem with SAP MM, SAP HCM, and Access Control (ACS)

Centralized analytics

Effect for the Company



Enhanced transparency and manageability of PPE accounting

Minimized risk of errors

Support for procurement optimization decision

Complexity



Seamless integration into existing processes without major disruptions

Staff training and transition to the new procedure

Migration and unification of data from paper records

PPEs Management

Interface of the PPE module

Скриншот интерфейса модуля управления СИЗ и СО. В верхней части расположены кнопки «Настроить фильтры» и «Настроить сортировку». Ниже — поля для поиска и фильтрации: «Номер документа» (с выпадающим списком «содержит»), «Дата документа» (с датой «01.10.2025»), «Статус» (с выпадающим списком «Создан»), «Склад откуда» (с выпадающим списком «Склад»). Внизу — таблица с заголовками: «Дата документа», «Номер документа», «Статус», «Тип документа», «Ответственный».

Скриншот интерфейса модуля управления СИЗ и СО. В верхней части — панель с кнопками «Создать», «Изменить» и «Удалить». Ниже — таблица с заголовками: «Номер», «Дата документа», «Дата утверждения», «Комментарий». В левом меню — раздел «Рабочие места» с подпунктами: «Рабочее место ЦВС», «Рабочее место ТБ и ОТ», «Рабочее место Сервиса», «Рабочее место Супервайзера», «Рабочие документы», «Перемещение», «Выдача», «Выдача на склад», «Возврат», «Передача в Сервис», «Открытая потребность», «Годовая потребность», «Отчеты».

Номер	Дата документа	Дата утверждения	Комментарий
MOP-2025-01081	08.11.2013	08.11.2013 00:00	Создано на основании доку
MOP-2025-01082	01.05.2014	01.05.2014 00:00	Создано на основании доку
MOP-2025-01083	01.11.2014	01.11.2014 00:00	Создано на основании доку
MOP-2025-01084	23.11.2015	23.11.2015 00:00	Создано на основании доку
MOP-2025-01085	16.06.2016	16.06.2016 00:00	Создано на основании доку
MOP-2025-01086	14.02.2018	14.02.2018 00:00	Создано на основании доку
MOP-2025-01087	05.06.2018	05.06.2018 00:00	Создано на основании доку
MOP-2025-01088	31.10.2018	31.10.2018 00:00	Создано на основании доку
MOP-2025-01089	10.03.2019	10.03.2019 00:00	Создано на основании доку
MOP-2025-01090	03.04.2019	03.04.2019 00:00	Создано на основании доку
MOP-2025-01091	30.04.2019	30.04.2019 00:00	Создано на основании доку
MOP-2025-01092	01.06.2019	01.06.2019 00:00	Создано на основании доку
MOP-2025-01093	01.08.2019	01.08.2019 00:00	Создано на основании доку
MOP-2025-01094	01.09.2019	01.09.2019 00:00	Создано на основании доку
MOP-2025-01095	10.09.2019	10.09.2019 00:00	Создано на основании доку
MOP-2025-01096	03.10.2019	03.10.2019 00:00	Создано на основании доку
MOP-2025-01097	01.11.2019	01.11.2019 00:00	Создано на основании доку
MOP-2025-01098	08.11.2019	08.11.2019 00:00	Создано на основании доку
MOP-2025-01099	12.11.2019	12.11.2019 00:00	Создано на основании доку
MOP-2025-01100	10.12.2019	10.12.2019 00:00	Создано на основании доку
MOP-2025-01101	25.12.2019	25.12.2019 00:00	Создано на основании доку

Further development of Industrial Safety and Occupational Health (ISOH) Digital Platform

Permit to work System with Digital Signature

Brief Description of the Project: “Automated Information System for Work Permit Management”



Project Passport:

30%



In process

Project Goal

- Automation of the processes for issuing and closing work assignments (WA) and work permits (WP) for high-risk operations, including obtaining approvals using the employee's digital signature.

Характеристики проекта

Justification

The absence of an automated system for issuing/closing work assignments and permits leads to time loss due to manual entry in various logs and forms. The automation eliminates human errors, reduces time loss, and minimizes the risk of unissued permits or work assignments.

Project Tasks

- Establish unified requirements for the issuance, approval, execution, and closure of work assignments and permits. Enable real-time monitoring of all work. Implement digital signatures (FaceID) ensuring uniform legal validity of documents

Expected Results:

- Automation and simplification of work permit management. Unified system for issuing, approving, and closing work permits. Improved control over execution deadlines. Reduction of uncoordinated corrections and duplications. Digital traceability of work permits for investigations. Increased operational flexibility during shift changes..

Project Executor

UCO Company - developer of other digital safety products

Organizational Structure of the Project

Key Project Stakeholders

Project Sponsor
CEO

Project Curator
MD on Digitalization

Director of MPC

Project Team

Project manager

Owner
Director of HSE
Department

External Supplier
UCO

General Information

- **Timeline:**
- July 2025 – July 2026r (Stage 1)
- April 2025 – April 2026 (Stage 2)

Business Customer

Director of MPC

Project Scope

- Pilot MPC Akbakay
- Replicating to MPC Pustynoye, Zholymbet, Aksu

Impact Level on Processes

Average

Project Risk Level

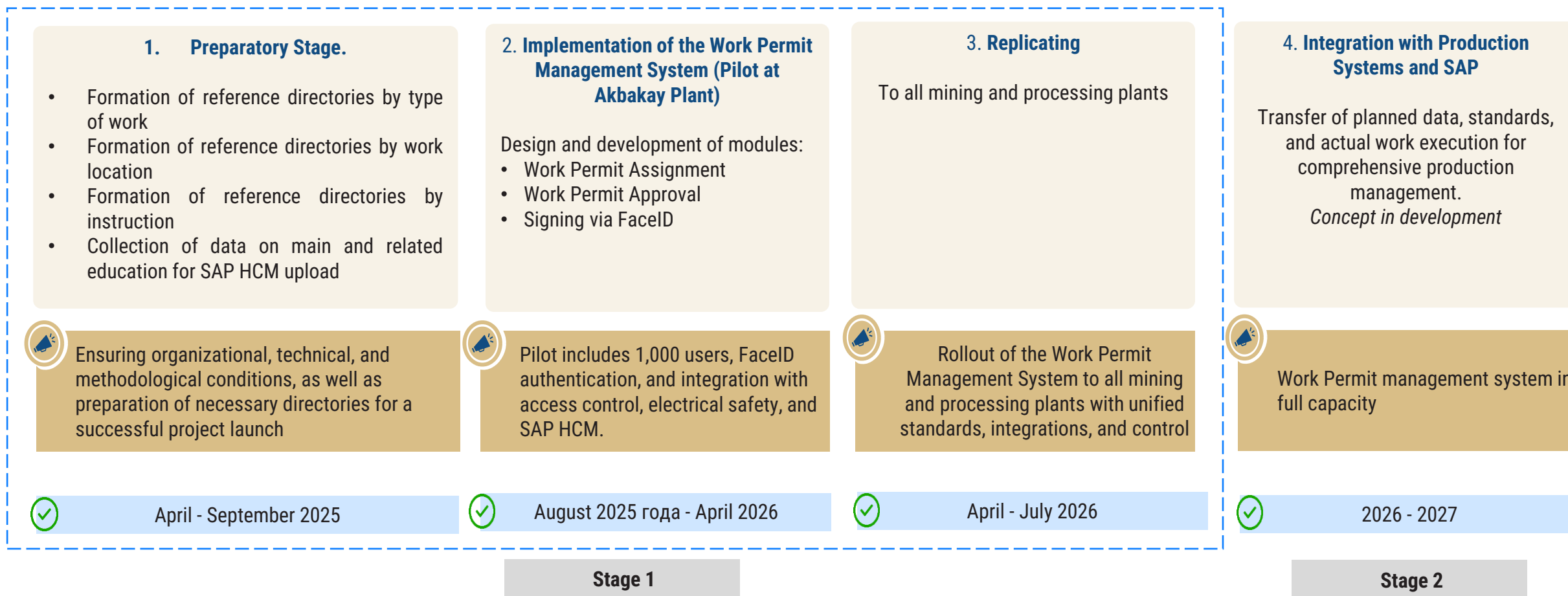
Low

Priority

High

The work permit management system is planned not only as an automation of the issuance and closure process, but also as a key element for transitioning to shift-based resource accounting

Implementation is based on HSE requirements and will be integrated with production systems and SAP :





Thank you !

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