



## KPO TECHNICAL WEBINAR ON COMPRESSORS WITH THE PARTICIPATION OF THE IMB CENTER

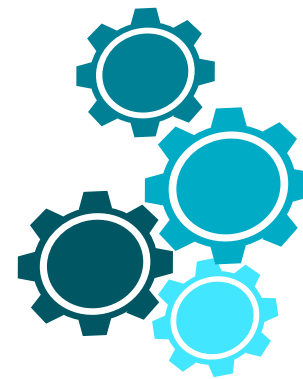
KARACHAGANAK PETROLEUM OPERATING B.V

18/04/2025

# DISCLAIMER

The information contained in these slides is made available for consideration. It represents KPO's preliminary description of the company's demands as presently envisaged, but KPO reserves the right to change this information in the course of planning and implementing the projects, and KPO cannot be held responsible for any loss, damage or expense arising from reliance on this information. The information will not form part of any agreement between KPO and contractors participating in the workshop.

Today's engagement is one of many steps which KPO and its stakeholders are taking to develop local content.



# FANS AND COMPRESSORS

# FAN OVERVIEW



## Purpose:

- Cooling fans is to blow cold air and drive hot air out of the environment.
- The main benefit of using air cooler is the elimination of an auxiliary water supply

## Fundamental Components:

- Motor
- Rotor shaft
- Impeller blades
- Pulleys and Belt/Gearbox
- Bearings



## Various Accessories:

- Vibration switches/sensors
- Lovers (manual or automatic)

## Configurations:

- Forced type – fans located below bundles
- Induced type - fans located above bundles



**280** Fans are installed over KPO Facilities, cooling process and auxiliary fluids

**PM** 6 Months preventive maintenance inspection is conducted:

- Visual inspection
- Greasing
- Belt tensioning

**Failure Mode** Frequent Failures:

- Belts
- High Vibration
- Pulley

# COMPRESSORS OVERVIEW



## Centrifugal Compressors (API 617)

**Working Principle:** Uses a rotating impeller to accelerate gas, which is then diffused to increase pressure.

**Fundamental Components:** Impeller, Seals, shaft, bearing and etc.



## Reciprocating Compressors (API 618)

**Working Principle:** Uses pistons driven by a crankshaft to compress gas in a cylinder.

**Fundamental Components:** Cylinder, Piston, Crankshaft etc.

# CENTRIFUGAL COMPRESSORS

Service	Manufacturer	Pressure output	Speed
Acid Gas Compressor	BORSIG (MAN Turbo)	102.6 Bar	14530 RPM
Flash Gas Compressor	MAN Turbo	49 Bar	14604 RPM
Sour Gas Compressor	MAN Turbo	81 Bar	14604 RPM
Reinjection Compressor	Nuovo Pignone	430 Bar	11370 RPM

## PM

### 3 Year Minor inspection:

Alignment check  
Bearing Inspection  
DGS inspection

### 6 Year Major inspection:

Alignment check  
Bearing Inspection  
DGS inspection  
Rotor inspection  
Diaphragm inspection

# RECIPROCATING COMPRESSORS

Service	Manufacturer	Pressure output
Flash Gas Compressor	KNOX WESTERN	83 Bar
Flash Gas Compressor	HAUG	48 Bar

## PM

### 12M Refurbishment of Cylinder Valves:

Replacement of soft parts  
Spring inspection

### 12M Refurbishment of pressure and wiper packings:

Inspection of Piston and Rider rings  
Pressure packings and Oil Wiper Packing replacement

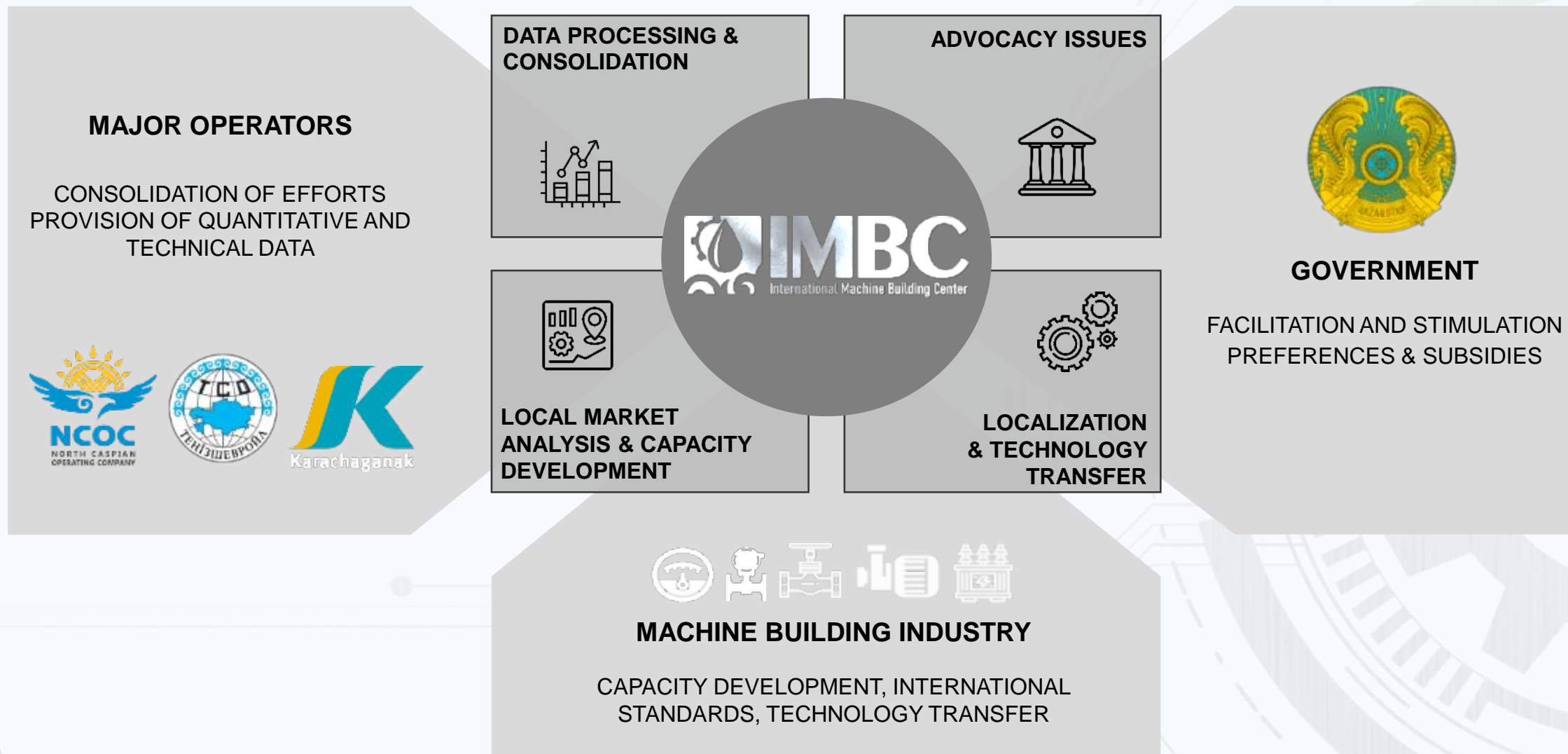




# OVERVIEW OF IMB CENTER'S ACTIVITIES

KPO TECHNICAL WEBINAR ON COMPRESSORS





In our analyses of demands and identifying localization priorities, we utilize the FPAL coding system

## FPAL Commodity Codes

1.01  
Drilling Equipment

1.02  
Material and Product Handling Equipment

2.99  
Other Products / Equipment and Materials

### Commodity Group A

1.09  
Electrical Equipment and Materials

1.10  
Instrumentation / Process Control Equipment / Materials

2.02  
Valves and Accessories

### Commodity Group B

1.04  
Pumps and Seals

1.11  
Process Filters

1.12  
HVAC

2.01  
Line pipe

### Commodity Group C

1.02  
Material and Product Handling Equipment

1.07  
Heat Exchangers / Heat Transfer Equipment

1.16  
Firefighting Equipment

2.07  
Chemical / Oils / Paints

2.08  
Insulation / Refractory Materials

### Commodity Group D

1.03  
Compressors / Expanders / Blowers and Accessories





1.05  
Drives and Accessories

2.03  
Steel / Metal Materials

2.11  
Workshop and Handtools

Procurement in above commodity groups accounts for **over 75% of all procurement of goods** by three Operators \*\*

# PROGRESS UNDER COMMODITY GROUPS

	 <b>Commodity Group A</b>	 <b>Commodity Group B</b>	 <b>Commodity Group C</b>	 <b>Commodity Group D</b>
Demands analysis	35 000 items analysed	55 000 items analysed	7 000 items analysed	12 000 items analysed
High demand goods identified	22 types of goods	19 types of goods	27 types of goods	39 types of goods
Market analysis, longlist from available resources	more than 90 manufacturers identified	more than 100 manufacturers identified	more than 80 manufacturers identified	more than 150 manufacturers identified
Site surveys, manufacturers who expressed interest	81 site surveys conducted	73 site surveys conducted	50 site surveys conducted	55 site surveys conducted
Shortlisting, manufacturers producing types of goods with high demands	23 manufacturers shortlisted	16 manufacturers shortlisted	In process	TBC
Summarized Technical Requirements	12 STRs developed	8 STRs developed	In process	TBC
Capacity development	10 CDPs developed	4 CDPs developed	TBC	TBC
Implementation of capacity development	3 recommended manufacturers	2 recommended manufacturers	TBC	TBC
Localization Cases	13 LC cases developed with investors	5 LC cases developed with investors	4 LC cases developed with investors	1 LC cases developed with investors

**Recommendations to Operators**

## COMPRESSORS & SPARES



Compressors (centrifugal, scroll, reciprocating, screw type, etc.)  
**144 ea**



Other compressors (atomizing, mobile, zero air, hermetic, piston, refrigerant, scroll)  
**342 ea/asy/set**



Blowers & fans (axial, centrifugal, air & heat blower)  
**1,628 ea/set**





[infoimbc@imbc.kz](mailto:infoimbc@imbc.kz)



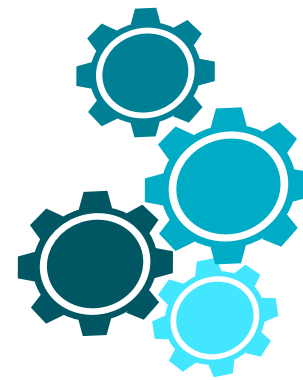
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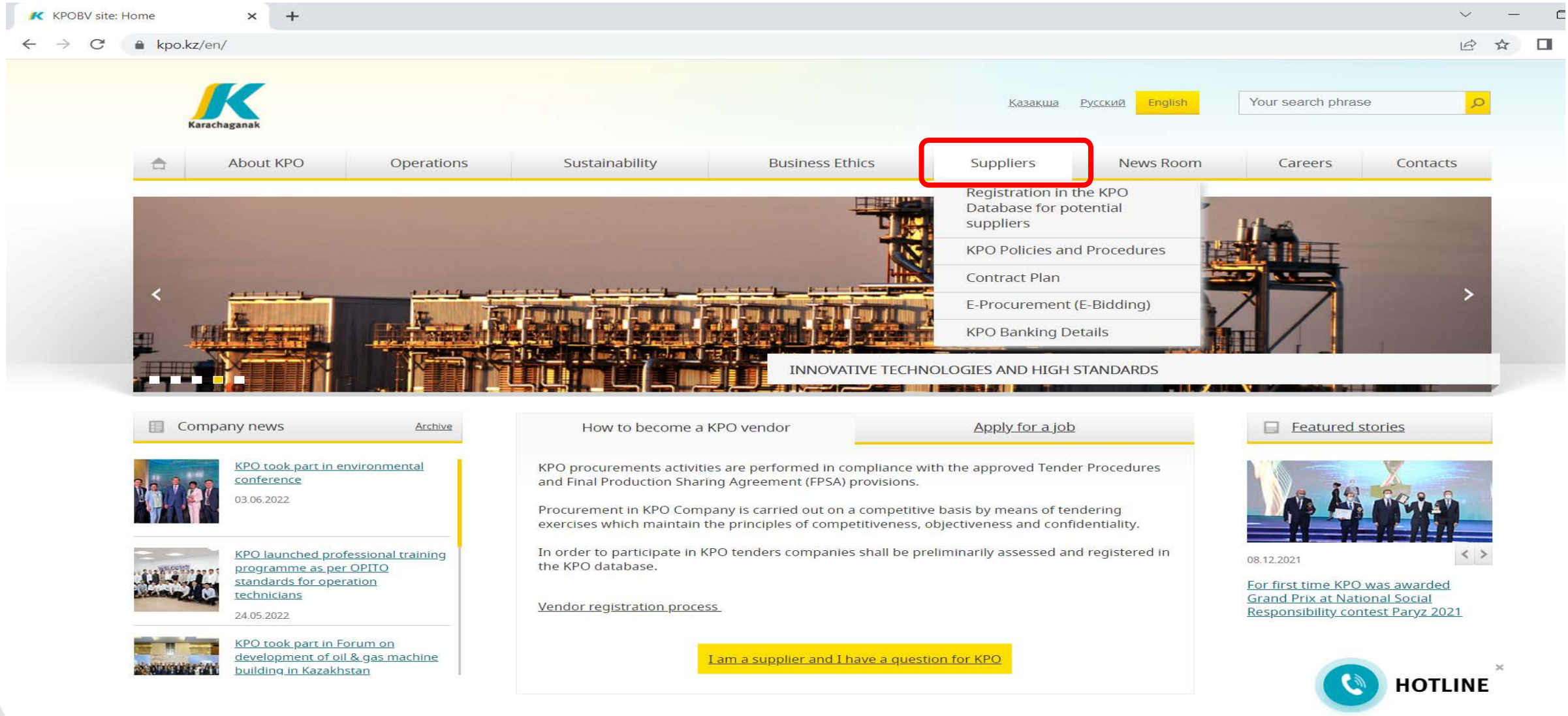
[www.imbc.kz](http://www.imbc.kz)

*The range and specificity of services for assistance in the development of the potential of manufacturers, offered by IMBC, are limited and are subject to provision on an individual basis, depending on the readiness of the manufacturer to supply their manufactured goods in line with the requirements of the Operators.*

*Assistance from IMBC does not oblige any retaliatory action from the potential manufacturer. The services of IMBC do not represent a guarantee of the successful participation and / or successful award of Contracts to the manufacturer in the procurement processes of the Operators.*



**KPO Supplier  
Database**



The screenshot displays the KPO website interface. At the top, there is a navigation bar with the Karachaganak logo, language options (Kazakh, Russian, English), a search bar, and a main menu. The 'Suppliers' menu item is highlighted with a red box, and its dropdown menu is visible, containing links to 'Registration in the KPO Database for potential suppliers', 'KPO Policies and Procedures', 'Contract Plan', 'E-Procurement (E-Bidding)', and 'KPO Banking Details'.

Below the navigation bar, there is a large banner image of an industrial facility with the text 'INNOVATIVE TECHNOLOGIES AND HIGH STANDARDS'.

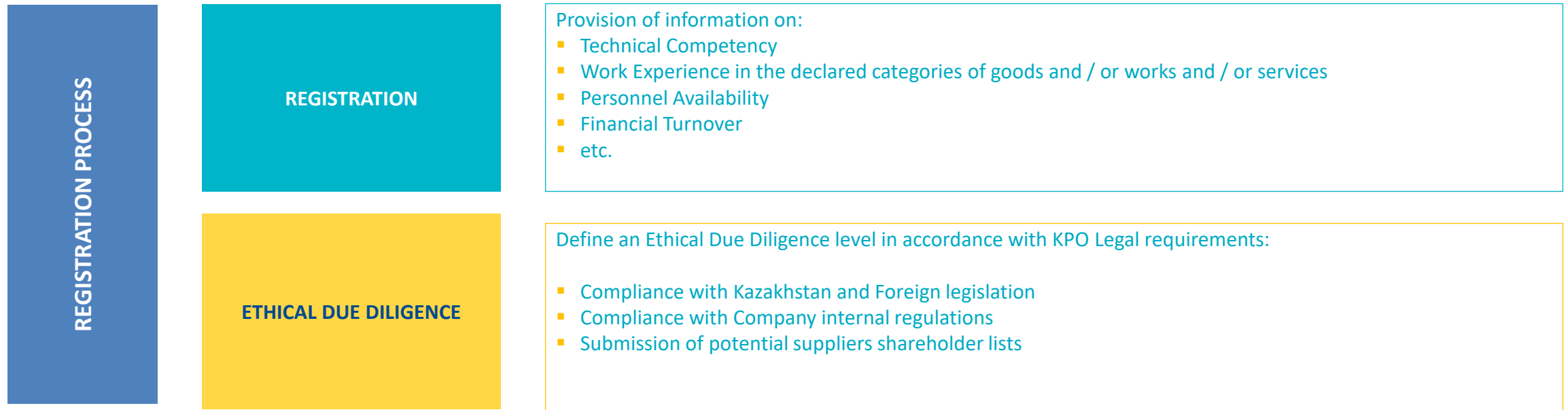
The main content area is divided into three columns:

- Company news:** Features three news items with dates:
  - [KPO took part in environmental conference](#) (03.06.2022)
  - [KPO launched professional training programme as per OPITO standards for operation technicians](#) (24.05.2022)
  - [KPO took part in Forum on development of oil & gas machine building in Kazakhstan](#)
- How to become a KPO vendor:** Contains text about procurement activities and a link to the 'Vendor registration process'.
- Apply for a job:** A button labeled 'I am a supplier and I have a question for KPO'.
- Featured stories:** Features a story titled 'For first time KPO was awarded Grand Prix at National Social Responsibility contest Paryz 2021' dated 08.12.2021.

At the bottom right, there is a 'HOTLINE' button with a phone icon.

# VENDOR REGISTRATION

All potential suppliers shall be registered in KPO Database



Vendor registration in KPO Vendor Database does not guarantee the participation in a tender or contract award, but suggests that a registered company may be considered as a market research participant for provision of goods, works and services for further pre-qualification process or tender as the need arises.

# VENDOR REGISTRATION

- To register in KPO Vendor Database, potential suppliers shall:
  - Download a questionnaire on KPO website – <https://kpo.kz/ru/postavshchikam/registraciya-v-baze-dannykh-postavshchikov-kpo>
  - Fill in the questionnaire for the preliminary vendor assessment and indicate activity codes
  - Attach copies of required documents
  - Submit the completed pack of documents for vendor assessment and registration by e-mail at [MIVQ@kpo.kz](mailto:MIVQ@kpo.kz)
  - Contact phone: +7 (711336) ext. 4943, 4946, 2192
- KPO encourages Suppliers to update registration data on an ongoing basis, related to:
  - Work Experience in the declared categories of goods, works, services
  - Certification, accreditation
  - Reorganization
  - Contact persons

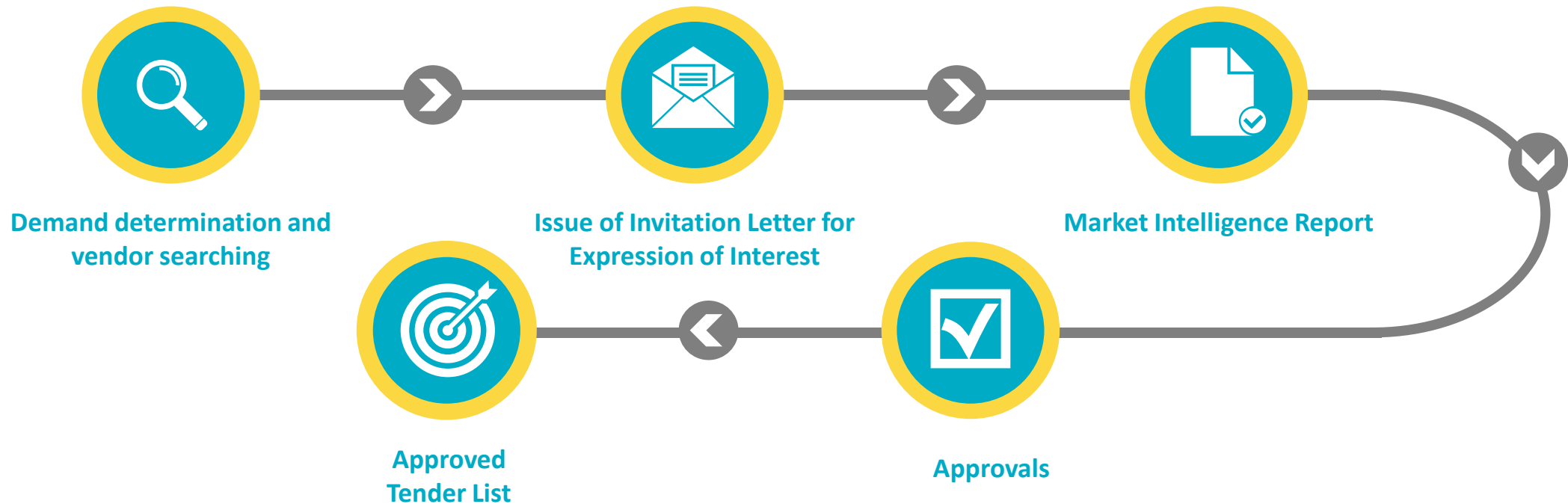


# MARKET RESEARCH

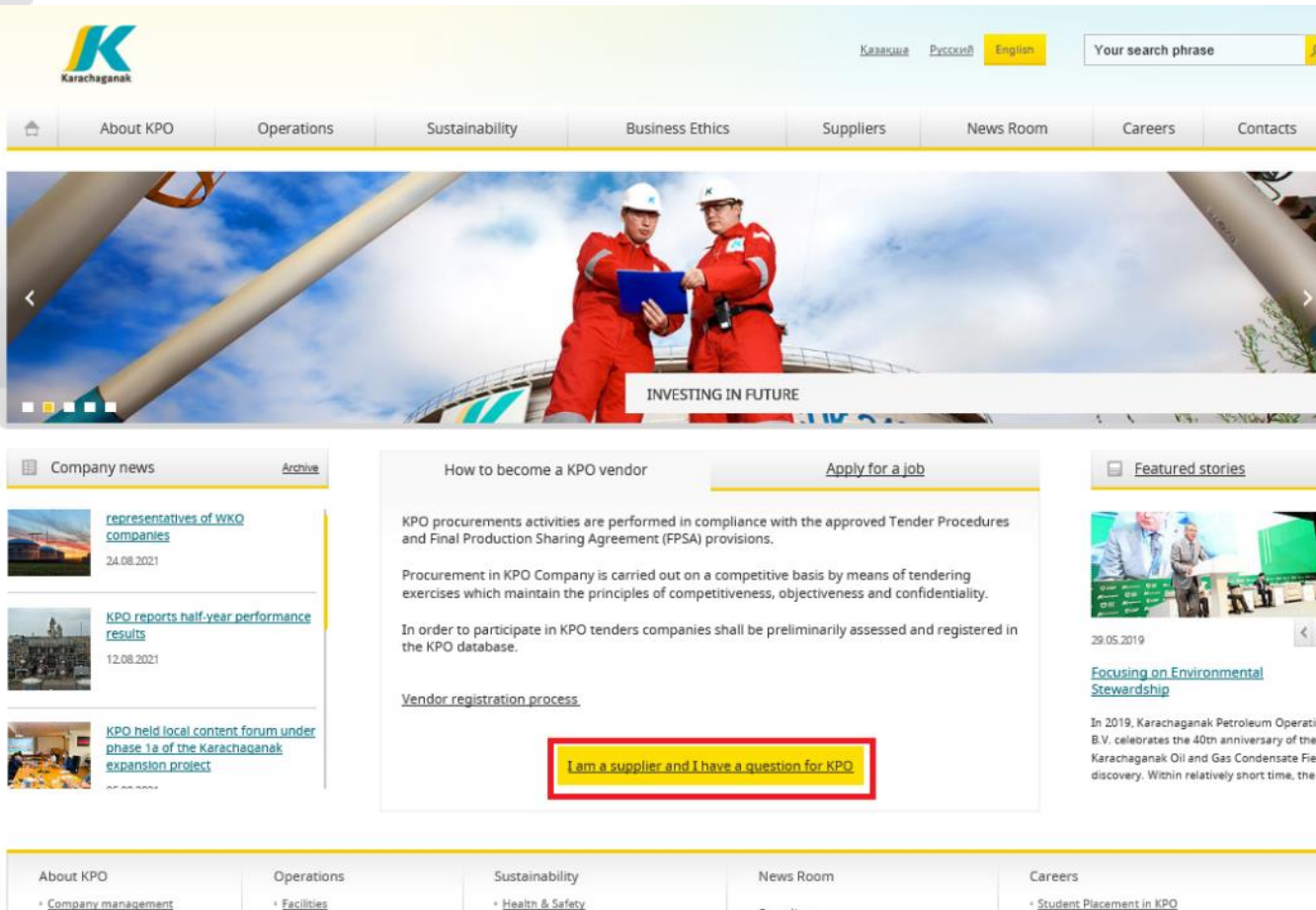
## Purpose

- Define potential suppliers of goods, works, services who can perform as per KPO requirements
- Ensure free competition for KPO tenders

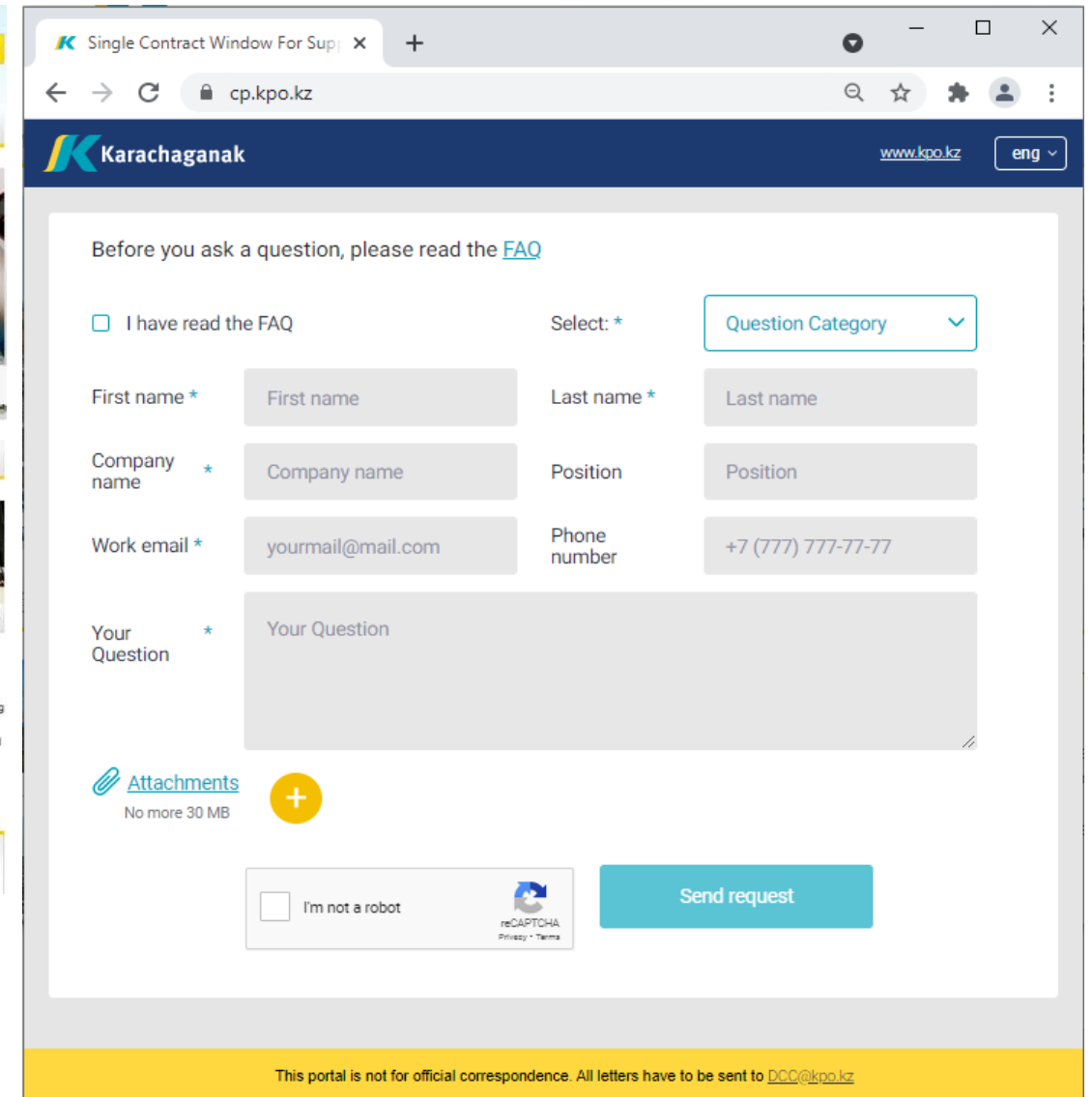
## PROCESS



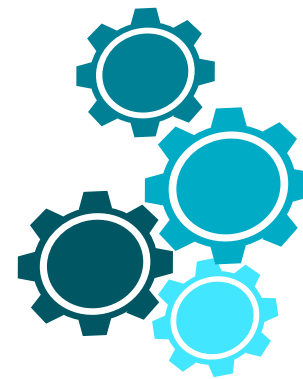
# "SINGLE WINDOW" SYSTEM



The screenshot shows the Karachaganak website homepage. At the top, there is a navigation bar with the Karachaganak logo, language options (Kazakh, Russian, English), and a search bar. Below the navigation bar is a large banner image of two workers in red uniforms looking at a tablet, with the text "INVESTING IN FUTURE". The main content area is divided into three columns. The left column contains "Company news" with three articles. The middle column contains "How to become a KPO vendor" and "Apply for a job" sections. The right column contains "Featured stories" with two articles. At the bottom, there is a footer with links to "About KPO", "Operations", "Sustainability", "News Room", and "Careers". A red box highlights the text "I am a supplier and I have a question for KPO" in the "How to become a KPO vendor" section.



The screenshot shows the "Single Contract Window For Suppliers" form on the Karachaganak website. The form is titled "Before you ask a question, please read the [FAQ](#)". It includes a checkbox for "I have read the FAQ" and a "Select:" dropdown menu for "Question Category". The form also has input fields for "First name", "Last name", "Company name", "Position", "Work email", and "Phone number". A large text area is provided for "Your Question". Below the question field, there is an "Attachments" section with a plus icon and the text "No more 30 MB". At the bottom of the form, there is a checkbox for "I'm not a robot" and a "Send request" button. A footer note states: "This portal is not for official correspondence. All letters have to be sent to [DCC@kpo.kz](mailto:DCC@kpo.kz)".



## Procurement Process

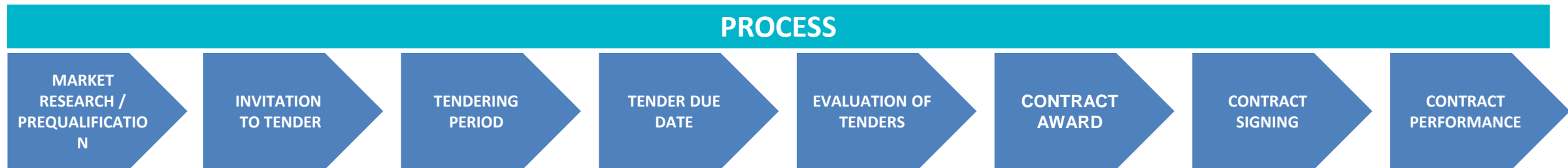
Asset Zhakupov

Contracts and Procurement  
Expert

# PROCUREMENT PROCESS

KPO shall perform the procurement activities in accordance with:

- the Final Production Sharing Agreement (confidential and intended only for the use of KPO, its Shareholders and the Republic) and the Joint Operating Committee's Tender Procedures (JOC)
- current legislation
- approved budget and work program



# MAXIMUM ATTENTION SHALL BE PAID TO



**TENDER PACKAGES  
SUBMISSION  
REQUIREMENTS**

**TENDER PACKAGES  
SUBMISSION  
REQUIREMENTS THROUGH E-  
BIDDING SYSTEM**  
([Link to the instructions](#))

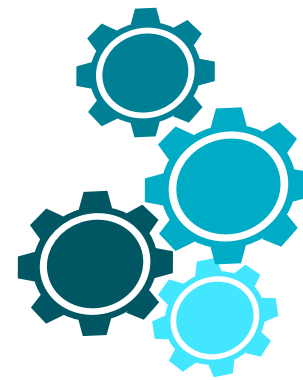
**INSTRUCTIONS  
TO TENDERERS**

**TENDER DUE DATE / TIME**



# TENDER DOCUMENTATION CONTENTS

1. Cover letter
2. Forms, that shall be mandatorily signed, stamped and provided within timeframe specified:
  - Tender Acknowledgement and Confidentiality Agreement
  - Form of Tender
  - Certificate of Corporate Ownership and Declaration of Compliance
3. A package of documents related directly to the tender subject itself
4. Instructions to Tenderers
  - Form of Contract includes:
    - Form of Agreement
    - Schedule A – General Terms and Conditions
    - Schedule B – Scope of Goods/Services to be Supplied and Specifications
    - Schedule C – Compensation and Payment
    - Schedule D – Health, Safety and Environment (HSE) requirements
    - Schedule E – Special Conditions
    - Schedule F – Statement of Local Content
    - Schedule H – Industrial Relations
  - Questionnaire for Tender Participants
  - List of goods and technical delivery conditions (if applicable)
5. Instructions for preparing a tender proposal:
  - Instructions to Tender Participants
  - Bid marking template



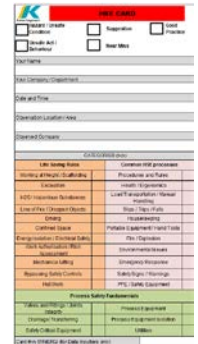
## KPO General HSE requirements

- Scope
- Contractor HSE Plan
- Compliance

- ❖ Leadership and Commitment
- ❖ HSE policy
- ❖ Planning

- *HSE Legislation*
- *Risk Management*

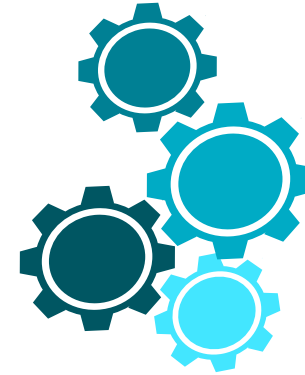
- *HSE Personnel*
- *HSE Competence Requirements*
- *HSE Training and Induction*
- *HSE Communications*
- *HSE Meetings*
- *HSE Procedures*



- *Equipment Maintenance and Inspection*
- *Occupational Health and Hygiene*
- *Environment*
- *Road Transport Safety*
- *PPE Requirements*
- *Emergency Response Interaction*
- *Subcontractor management*

- *HSE Observations and Reporting*
- *Incident Investigation*
- *HSE Audits and Inspections*
- *Safety Reporting*
- *Environmental Reporting*

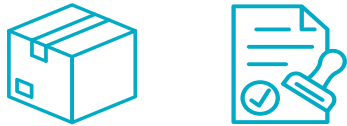




## Local Content Mechanisms

# SUPPORTING MECHANISMS FOR LOCAL COMPANIES

## TRIAL ORDER



Tenders for testing a trial batch of GOODS from Kazakhstani suppliers

## EARLY TENDER



Contract is concluded for the supply of GOODS with a suspensive condition or with a long-term delivery schedule

## KAZAKH TENDER



Tenders exclusively among Kazakhstani Suppliers. The goal is to award contracts to Kazakhstani suppliers of GWS

## CONTRACT IN **EXCHANGE** FOR INVESTMENTS (UNDER REVISION)



A contract in exchange for investment is a long-term contract concluded on a Single source basis, under which the supplier undertakes to produce goods of local origin that are the subject of a procurement contract in the territory of the Republic of Kazakhstan







**Thank you!**