

# **NETWORKED REMOTE OPERATION**

Our Networked Remote Operation solution is optimized for stationary working robots and is perfectly suited for the Brokk Pedestal Boom. It is a reliable solution supplied to many different industries and is proven in tough environments.

It is a networked solution that allows operators to control the robot while sitting in a control room. Depending on network configuration, the machine can be manuevered from 2,000 meters (6,500 feet) away or longer. The solution includes an ergonomic operator's desk with integrated controls and video screens, giving the operator a great work environment and the right conditions for maximum efficiency. It is possible to operate multiple robots from one control station and the robots are connected and operated over Ethernet or Wi-Fi.

- > Video and audio feedback
- > Ergonomic operator's desk
- Operate multiple robots from one control station
- Ethernet or Wi-Fi



# Video options

The standard video option includes two cameras that gives you good view of the work area and is perfect for breaker applications. If you have the need for changing of attachments or simply have a better view of the surroundings we can recommend four cameras, either fixed or a combination of fixed and pan tilt zoom.

# Audio option

Adding the option of audio feedback enhances the operators experience and increases the work effiency. The software equalizer filters undesired sound feedback.

#### **Network requirements**

Certain network requirements needs to be fulfilled for the Brokk Networked Remote Operation solution to work. The specific network requirements are available on request.

## **VIDEO OPTION 1:**

2 fixed cameras with digital zoom

- Good view of the work area
- Good option when you only use the breaker •

## **VIDEO OPTION 2:**

4 fixed cameras with digital zoom

- Great view of the work area and the surroundings •
- Enables changing of attachments remotely •

#### **VIDEO OPTION 3:**

2 pan-tilt-zoom cameras (PTZ) + 2 fixed cameras

- Total overview over the working area and the surroundings
- Enables changing of attachments remotely
- . The PTZ cameras has a 180 degree lifting angle and can rotate 180 degrees to the left and 180 degrees to the right (360 degrees) which makes it possible to look around and zoom in on specific details
- 30x Optical zoom on PTZs •



Suggested placements of cameras

|                 | FIXED CAMERA                        | PAN-TILT-Z    |
|-----------------|-------------------------------------|---------------|
|                 | HD, 720 p                           | Full HD, 1080 |
|                 | 5x Digital zoom                     | 30x Optical 2 |
|                 | Low latency                         | Low latency   |
|                 | Water and dust tight (IP69K)        | Water and d   |
|                 | High and low operation temperatures | High and low  |
| lev B           | Shock and vibration resistant       | Shock and vi  |
| okk 2021. Rev B | Option for wide viewing angle       | PTZ control   |
| kk i            |                                     | Low illumina  |

| PAN-TILT-ZOOM (PTZ) CAMERA          |
|-------------------------------------|
| Full HD, 1080 p                     |
| 30x Optical zoom                    |
| Low latency                         |
| Water and dust tight (IP69K)        |
| High and low operation temperatures |
| Shock and vibration resistant       |
| PTZ control                         |
| Low illumination mode               |