

Cisco Mining Thought Leadership

Hybrid work in the mine



The connected mine worker

People in the mine are still the primary source for decision making and for performing difficult non-repetitive tasks. They are also the most precious and fragile resource. Their value is amplified by the deep safety culture that has developed in all industrial environments. Maximizing the effectiveness and safety of every person is critical to the future of mining, especially as we draw new generations of workers into these environments. The hybrid work experience that many office workers consider essential can also free mine workers who are connected and effective anywhere in the mine.

Hybrid work in the mine

The effectiveness of any mine worker is primarily impacted by two things. First, like all industries, mine workers need strong collaboration with other people to leverage the strength of the greater community, whether they are on site or elsewhere. Second, these workers need the ability to interact in a timely way with mine systems through online workflow and asset management applications that make each task more efficient and keep the environment safe.

Industrial collaboration

In our personal lives, social media apps have made video calls to family members or friends commonplace. This same technology can use secure industrial video apps to bring experts and mentors into a plant or mine site virtually. Doing this can eliminate hazardous and unproductive travel requirements. The field worker's video endpoint can be built into a hard hat, be a separate purpose-built appliance, or be a simple phone with a camera to support troubleshooting and discussions.

Another lesson we can take from private life to the industrial site is the ease and effectiveness of asynchronous messaging. Sharing photos, sound recordings, and quick questions can multiply productivity throughout the day. Messaging and video calls can be mixed with conferencing, voice-activated calls, and voice to text and then connect with push-to-talk systems that are still pervasive in mining.

As the workforce becomes younger and experts or decision makers become leveraged across multiple mines, these tools will be essential to maximize personnel that are in the mine.

Secure mobile online work

In the same way that banking and shopping are now possible from a tablet, managing field assets and completing workflows can be done online as well. Data that is recorded on clipboards or bulletin board systems can be moved online and accessed from anywhere in the mine or off site. This shift from physical records to electronic ones will make them easier to update from anywhere and will result in more accurate and timely reporting, improving the effectiveness of everyone's work.

Moving from binders, clipboards, and bulletin boards to tablets and software is a major work effort, but there are several experienced industry partners that can help build the business case and manage the transition with you.



Hybrid Work is an approach that designs the work experience around and for the worker, wherever they are. It empowers people to work onsite, offsite, and moving between locations.

The hybrid workforce of the future needs secure and seamless access to business applications and feature-rich, intuitive collaboration tools. This allows them to message, meet, call, share content, and collaborate securely from any space.

To find out more visit:
www.cisco.com/c/en/us/solutions/hybrid-work/what-is-hybrid-work.html

Online everywhere: an overview

The underlying technology that builds a foundation for the online mine worker is connectivity. Since workers are mobile, this connectivity needs to be wireless. Let's take a quick tour through the technologies required for connectivity, electronic workflows, and collaboration tools.

Wireless connectivity

There are many wireless technologies present at mine sites today, but the two that are most important for connecting mine workers are Wi-Fi and LTE/5G. It is unlikely that one of these will displace the other since Wi-Fi is much more cost effective for localized, high-bandwidth use cases and LTE/5G is much more effective at covering large open areas. Tablets and mobile video endpoints can connect to either technology. All wireless access, whether it is Wi-Fi or LTE/5G, needs to be designed as an extension of the wired network. Access policies, prioritization policy, and security frameworks need to map seamlessly across these wireless environments, whether they are IT and OT infrastructure.

Online workflows

An important aspect of online workflows is the existing ERP, asset management, project management, and control systems. Most of these already have workflow modules that can extend to mine workers. In order to make these systems work together seamlessly, it's usually necessary to leverage a workflow platform like Augmentir or Parsable to make the experience simple for the worker. Cisco works closely with these workflow platforms to ensure the communication infrastructure matches the elements of the workflow that are being implemented.

Collaboration tools

Cisco has a broad portfolio of collaboration tools in the Webex® suite of applications and endpoints that lead the industry. Existing phone systems and push-to-talk systems can be integrated into these video and messaging platforms. For specialized industrial collaboration endpoints like hard hat systems and voice-activated remote expert systems, there are multiple partners that Cisco has worked with to make those elements an effective part of the system.

Connected for safety

Another benefit to a strongly connected workforce is virtual proximity. A very interactive and digital environment increases awareness of field worker location and activity in a way that makes it immediately obvious when something isn't right. Having digital reporting tools instantly accessible encourages much more timely reporting of minor irregularities with photos and quick descriptions. A culture of care and safety for the employee at industrial sites becomes more accessible and actionable.

More information

The hybrid work experience makes mine workers more effective in two ways. First, strong and persistent communication with experts and mentors makes it easy to leverage a large knowledge base from anywhere. Second, accessible online workflow and reporting tools make workflows more efficient and provide more complete and timely reporting data.

Find out more about how Cisco helps mine operators with enabling their workforce at www.cisco.com/go/mining, and learn more about hybrid work at www.cisco.com/go/hybridwork.