

Smart glasses

in the service of nuclear power

CEZ Group

The supplied solution focuses mainly on the area of services, which includes controls, inspections, online communication and documentation of the state of operation and maintenance of technology in nuclear power plants. In the technologically demanding environment of NPPs (noise, complex piping and cabling routes, etc.), smart glasses make the tasks undertaken by the staff at NPPs easier and more efficient. At the same time, they play an important role in the initial training of new operations personnel.

Year of realization

2022

Industry

Nuclear power

Country

Czech republic

Customer's website

[cez.cz](https://www.cez.cz)

Key benefits

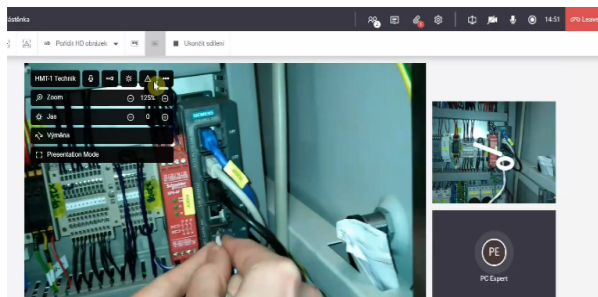
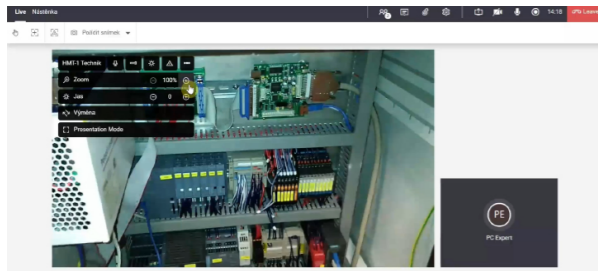
- > Simplifying the work of service technicians and maintenance teams (lower demands on their physical inspection activities)
- > Reduction of production downtime and elimination of possible errors
- > Streamlining processes using remote employee collaboration
- > Reduction of cost and carbon footprint

Successful testing at Temelin

AYES proposed to CEZ a solution that combines smart glasses (RealWear Navigator™ 500) with an appropriate software solution (TeamViewer Frontline xAssist for remote communication and TeamViewer Frontline xInspect for operating procedures), supplemented with tailored services (consultations, training, user support).

In the first month, the remote support process (sound and image transmission from the operation above the unit's control room), remote sharing of documents, making photo and video documentation, technology monitoring, the control system and verification of processes and personnel training were successfully piloted in testing mode with the given service configuration at NPP Temelin.

In the next stage, we focused on checking the connection with the existing mobile support of the NPPs' operation and the use extended by tasks of personnel training focusing on the identification and elimination of human error.



The pilot testing also revealed the need to ensure connectivity of GSM and WiFi in the operation of the NPPs while complying with the demanding requirements set out in EMC studies. Also legal aspects were addressed during the pilot operation, such as the compliance with the cyber security requirements and the GDPR.

Every hour is more worth than gold

The implementation of the technology that combines augmented and assisted reality is extremely beneficial for NPP Temelin. "If the implementation of smart glasses means that the shutdown of generation units or the solution of breakdowns and non-standard state of technology is shorter by just one hour, we are talking savings worth millions of Czech crowns," says Jan Gebelt, an information system specialist. He also highlights other functionalities: "What I see as extremely important is the flawless communication within the whole system, which we tested during the one month of intense pilot stage. Remote projection of photo and video documentation and writing directly into the transmitted images are of immense help in solving of tasks. Thanks to this function, also less experienced colleagues can solve tasks, which gives us more flexibility in dealing with different situations."

And that's not all. Using smart glasses and augmented reality also means more efficient training sessions for new operations personnel. The shorter time needed for the training and elimination of potential errors lead to substantial further savings of time and money. Due to the type of environment, the possibility to put the equipment on the hard hat and use soundproof microphones with clear sound quality also at 100 dB of background noise is also very important.

“We are proud to be a strategic partner of CEZ in the field of smart glasses and augmented reality as part of their digitization efforts. This is proof that we can accommodate clients with exceptionally high demands on safety aspects.”

Tomáš Vravko
Co-Founder & Sales Manager
AYES

The client commented on the service, training and support provided by AYES very simply: "The support so far has been excellent."

Digitization for greener power

The use of smart glasses at NPPs is part of an important period of implementation of digital technologies at CEZ, which fits in the plans for greener electricity generation. CEZ is planning to gradually implement smart glasses in all areas of service and other activities linked to the operation of nuclear and conventional power plants and renewable sources in the Czech Republic. This will make the work of CEZ service engineers and maintenance teams easier, reduce the demands on their physical inspection activity and significantly streamline the processes. And hand in hand with this comes the reduction of costs and carbon footprint previously associated with these processes.

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Jan Gebelt
Information System Specialist

CEZ Group, Czech republic

AYES

AYES specialises in the supply of smart glasses and the use of augmented reality in the digitalisation of industrial production. We provide a wide range of hardware and software solutions and we are also a full service partner to our customers in service, consulting and additional services, such as content development for smart glasses or 3D data visualization.

We improve working conditions especially for service and maintenance teams and increase the efficiency, speed and quality of processes resulting in cost savings. Our services are an important cornerstone of the digitalization of any industrial production and contribute to reducing the carbon footprint.

For more information about AYES, please visit [ayes.cz](https://www.ayes.cz)
You can also follow us on [LinkedIn](#).