# AWO Siegen

## Labour market inclusion with ifm mate

# Inclusion through digitalisation

## How the worker assistance system ifm mate facilitates access to the regular labour market for persons with disabilities

**The Arbeiterwohlfahrt (AWO, workers' welfare association) in the German district of Siegen-Wittgenstein uses the worker assistance system 'ifm mate' to qualify persons with disabilities for manual tasks requiring a zero-defect quality level and to integrate them into the regular labour market. The project is a tangible example of how technological innovation and social commitment can go hand in hand to foster real change and create a more inclusive world of work.**

> *"For us, the decisive factors for choosing ifm mate were the ease of use, the greatly reduced installation effort and the good visualisation during operation.*

AWO in Siegen-Wittgenstein operates six sheltered workshops that not only employ people with disabilities, but also help them prepare for the regular labour market.

*"Inclusion is a statutory requirement, but above all a social concern: Through targeted support and qualification, our workshop employees and training participants are empowered to enter and stay in the general labour market, while also experiencing strengthened social inclusion,"* says **Michael Dietermann**, Operations Manager at AWORK.

Assembly and packaging tasks, which require a zero-defect quality level in production, pose a particular challenge. People with cognitive and mental health impairments often struggle to complete complex workflows without errors that require a high level of accuracy and very close attention.

### ifm mate – developed out of own needs

For such tasks, "AWORK", an organisational unit of AWO in Siegen, uses the ifm mate worker assistance system. The automation specialist ifm originally developed the system for in-house use to support its own production staff at manual assembly and packaging workstations. It facilitates the daily routines while also helping new and existing employees to familiarise themselves with new workflows. The aim was to develop an easy-to-use system without compromising on functionality.

*ifm mate as a complete solution: Camera (above the workstation), software and PC can be easily extended with a touch screen, a signal lamp (bottom right) and an O2D5 vision sensor (far left, mounted on crossbar).*

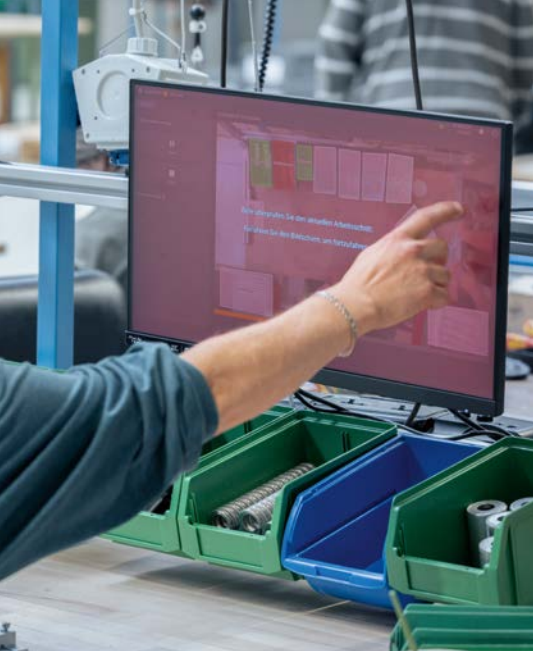
**An easy-to-use and comprehensive solution**

ifm offers the worker assistance system ifm mate as a complete solution. It includes a 2D/3D camera which records both video and 3D images and a box PC with a powerful software program at its heart that uses artificial intelligence to precisely detect the position, height and orientation of the worker's hand. This information is compared with the stored manual workflow. Visual step-by-step instructions on the screen guide the user through the production process. Unlike other systems on the market, ifm mate does not require any additional gadgets such as tracking wristbands to detect the worker's hands reliably.

Handling in preparation has also been simplified for ease of use. The positions of containers with components can be defined in the system via touch screen. Depending on the process requirements, the user can then choose between fixed-order processes with a fixed sequence of work instructions and free-order worker guidance with any sequence of work steps. Mixing both sequence types is also possible. Through step-by-step guidance, workers can complete even complex tasks with zero errors. The system not only displays the individual work steps clearly, but also recognises deviations and immediately alerts the user. The worker can rectify errors instantly and independently, which significantly increases the quality and improves the learning curve. For even more effective quality control of the workpieces, an O2D vision sensor can be integrated into ifm mate, e.g. to analyse object surfaces and contours and determine if the components are assembled correctly.

*"For us, the decisive factors for choosing ifm mate were the ease of use, the greatly reduced installation effort and the good visualisation during operation,"* says **Michael Dietermann**. At "Siegener Technik Service" (STS), a sheltered workshop that currently employs 130 persons with chronic mental illnesses, two systems are used.

*"Thanks to our well-equipped CNC area, we can offer nearly everything a metal-working company on the regular labour market offers,"* says **Thorsten Mieske**, Production Manager at STS. *"Another focus of our work is electrical engineering, where we cover a wide range of services from cable assembly to control cabinet construction. Thanks to ifm mate not only our clients can complete more complex tasks independently. The group leaders are relieved as well as the time for checking is considerably reduced. This frees up more time for the core tasks."*



*Left photo: After successful contour verification by the O2D5 vision sensor, the system provides positive feedback to the worker in the form of a green frame around the inspection image.*

*Right photo: If a deviation from the specified process occurs, the worker is instantly alerted. The digital process is stopped until the worker acknowledges the error message. The process then continues, starting with the previously faulty step.*

*Easy to (dis)assemble: STS has developed a mobile workstation solution to also be able to support its clients in the field.*



## Inclusion through mobile, network-independent assistance

Before working at the actual production premises of the customer, ifm mate helps the workshop employees prepare for the job through targeted training.
*"The employees can familiarise themselves with the workflows in a sheltered environment without being involved in the production process right away,"* says **Michael Dietermann**. *"This helps them gain confidence and trust in their ability to get the job done."*
STS also uses the worker assistance system at the customers' premises to support its clients.

*"The mobile version can be set up at different workstations with little effort. The system runs independently without having to be connected to the customer's network. All it needs is an electric power supply. This means that we can use ifm mate flexibly for different use cases and support the inclusion of our clients holistically,"* says **Michael Dietermann**.

## A vital contribution to the labour market

The cooperation between AWORK and ifm creates an ideal symbiosis of two fields of interest: The industry needs skilled staff to achieve a zero-defect quality level and AWORK can train and deploy its employees for precisely this purpose.

From the very beginning, the ifm experts maintained a close cooperation with AWORK: *"From the moment we got in touch with ifm, we noticed a high level of customer focus,"* confirms **Michael Dietermann**. *"After we had made the decision to adopt ifm mate, we always had direct access to ifm's experts, who also came promptly to support us on site. We never felt that we were on our own. This allowed us to quickly familiarise ourselves with the system, and we are now able to use it independently."*

## Conclusion

Thanks to the ifm mate worker assistance system, AWORK in Siegen can fulfil its social mission even better. People with disabilities can optimally prepare for, and successfully participate in, the general labour market with the help of innovative technology. Industrial companies gain qualified, digitally supported staff for production tasks that require a zero-defect quality level – a win-win model that not only sustainably improves the world of work, but also the social inclusion of people with disabilities.

> *"From the moment we got in touch with ifm, we noticed a high level of customer focus. After we had made the decision to adopt ifm mate, we always had direct access to ifm's experts, who also came promptly to support us on site.*