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24/7 ON TRACK – EFFICIENT SHIFT COMMUNICATIONS

Shiftconnector® – Leading Software for Interactive Information Management



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Abstract

Production cycles in 24/7 shift operation within pharmaceutical manufacturing often lasts days, if not weeks. Production facilities run all around the clock, 168 hours per week. The more stages within a process, the more components become part of manufacturing and the higher the number of parallel, merging and branching processes. These numerous **interacting procedures** turn production sites into **complex structures**. In addition, conditions and incidents may differ from day to day. All in all, **enormous amounts of process data** are generated in the production process. However, individual shift workers are usually on site for a maximum of 40 hours in shift operation – i.e. only a third of the system running time. They have to understand, monitor and control what is happening. That's why shift workers need to know the exact status of their equipment and be able to access relevant information quickly. A well-coordinated shift team is necessary in order to produce efficiently, which takes the necessary measures with the right information. It means that the **flow of information** during shift operation must work smoothly and not be interrupted 24/7, around the clock. Process knowledge must be passed across **hierarchies and departmental boundaries**.

For **optimal coordination and communications in shift operatins**, an innovative enterprise platform is indispensable: Originally available as a digital log book, Shiftconnector® was specially developed for the process industry and has evolved into a multifunctional solution. The software provides **real time connectivity** between shift teams and ensures **interactive exchanges** between everyone involved in 24/7 shift operation. Use of **prioritizations** and **traceability** mean that tasks, instructions and events can be ideally controlled within the digital tool. Overall, Shiftconnector® optimizes information management and thus provides a completely new level of transparency in plant operation – and this is exactly where one of the core problems within production processes in the pharmaceutical industry lies. In addition, the solution powers the **digital transformation** of the industry.

„Efficient Plant Process Management (PPM) that also works smoothly after the next shift handover."

However, that's not everything: continuous development in the field of artificial intelligence (AI) opens up new possibilities. With state-of-the-art plant process management, the future of the pharmaceutical industry is heading in a promising direction.

Would you like to advance digitization within manufacturing and are you looking for an efficient solution? Learn more about Shiftconnector®. Our software is already used by more than 70,000 users in daily shift operation worldwide.

Why Do We Urgently Need Digital Solutions?



Many plants in the pharmaceutical industry lack transparency about production steps, incidents and risks within their operation. The challenge is therefore to effectively network all stakeholders in shift work – from the plant operator and maintenance teams to plant management. Alongside optimized communications, processes should also be linked via system interfaces. This must all be made possible across departments and shift teams.

Some companies rely entirely on the **shift handover**. However, the time window is narrow. 15 minutes as a hub for information transfer in such a complex environment? This is no longer sufficient to convey all tasks, instructions, prioritization, incidents, efficiency losses and disruptions to the next shift in a comprehensible manner in most cases. If you still rely on these transfer times, it is extremely likely that relevant knowledge will be lost. Verbal transfer of process knowledge is particularly prone to missing out required information. The result: if **information transfer** is disrupted then **security incidents and efficiency losses** are pre-programmed.

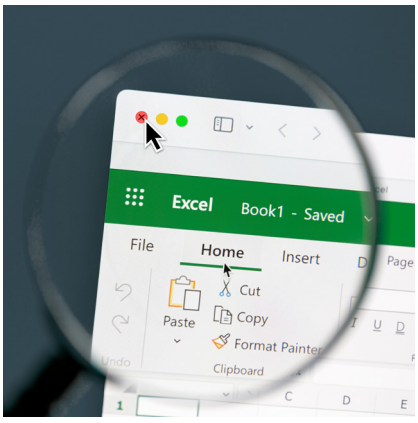


Many companies have responded to the growing need for process data acquisition with a mixture of documentation in **paper form** and self-developed **office tools** in the past. However, these in-house developments are exactly what make it difficult to find relevant information and do not allow for efficient transfer of information. Necessary **interfaces** to systems including maintenance, a **360° overview** of events and **interactive exchanges** between different departments – that's just part of what can't be mapped in office solutions. As a consequence, we must say goodbye to office tools and stacks of paper in manufacturing.

Only a digital plant process management solution ensures interactive, efficient and transparent collaboration. This means that all events in operation are easily documented, processed in a user-friendly manner and linked with one another in a targeted manner.

„The core of our enterprise platform is to digitize communication and documentation in manufacturing"

Andreas Eschbach, founder and CEO of eschbach



The End of Excel and Spreadsheets in the process industry

Bad Communication

Log book with single pages

Shift workers document processes in a paper-based log book or an Office tool (such as Word or Excel). Documentation on paper is only available where it was physically stored – such as in the clean room. Shift management working from home cannot access this documentation. Only authorized persons and departments can access tables and Word documents. Under these circumstances, relevant knowledge may be not available to colleagues in the maintenance department. There are no interfaces beyond the clean room, hierarchies and systems. The quality of shift handover depends largely on the memory and writing skills of supervisors. In addition, it is difficult to map the enormous amount of data and information clearly and transparently - without long search times being required. This form of shift handover leads to the worst shift handovers, inevitably results in the loss of knowledge and destabilizes cross shift cooperation.

Better Communication

Shift documentation with checklists

Employees are less likely to make errors with a shift handover based on checklists. Employees can better remember equipment status and process steps when checklists are used. Interfaces to other departments and transparency regarding production steps are still missing. Security incidents and efficiency losses are still serious at this point. Rapid adaptability and rapid action in the event of disruptions is not supported.

Optimal Communication

Interactive and transparent communication solution

During shift operation, employees already document tasks, instructions and incidents in a central software application. Everyone involved in shift operation has access to this information, regardless of location. With prioritization, the most relevant information can be accessed quickly. Workers have the information that is relevant to them. The enterprise platform, which enables documentation with photos and illustrations, also provides more precise information and simplifies documentation. This is how employees remember most of the information. Interfaces to all relevant systems within production also improve efficiency and save time.



Office tools and in-house developments are only suitable to a certain extent for industrial requirements in plants

Why Shiftconnector® Is Considered To Be the Best-in-Class Tool

eschbach has been a success story with numerous companies in the pharmaceutical industry for over 20 years. Our software was specially developed for communications within the process industry.

Alongside the networking of machines and systems, shift teams also exchange information interactively across hierarchical boundaries and departmental boundaries. Instructions, tasks and prioritizations simplify process management.

Processes and procedures must be documented in an audit-compliant manner, particularly in the pharmaceutical industry. Shiftconnector® provides a full audit trail of all changes in the system.



Acquired data and information about the condition of the plant are available in real time. PPM solutions are designed to process large volumes of data supplemented by human-made contextualizations and to make them available in a targeted, user-friendly manner.

If malfunctions take place, the current shift must react quickly and needs relevant information immediately. Shiftconnector® shows proven measures to quickly rectify faults or even to avoid them in the first place. Necessary maintenance measures are announced to the relevant teams via system interfaces.

Shiftconnector® collects data and information, processes and links them, whilst also providing analysis and visualization. This can provide new insights and recommendations for long-term measures in the sense of continuous improvement.

Over 70,000 Satisfied Users

Leading companies within the process industry rely on Shiftconnector® and share a success story with us. The enterprise platform is available in more than 28 countries and 25 languages.

Here are some customers with whom we work particularly closely:

BAYER · sanofi · octapharma · Alcon · Boehringer Ingelheim · Roche · Lonza · DSM

What are the Advantages of PPM?

The enterprise platform Shiftconnector® powers future-oriented plant process management. The basis: simple, continuous **documentation** of all relevant incidents within manufacturing. **Process data** from all **trouble spots within production** are recorded in daily shift work and linked in a targeted manner. Shift teams document directly in the tool and thus supplement the existing process data with the necessary context. This makes backgrounds understandable and completes the overall picture.

All occurrences, changes as well as batch and system statuses of ongoing operations are summarized in a transparent, clear display. This real-time information is available around the clock to those involved in shift operations. The relevant information is distributed in a targeted manner. While shift teams have an overview of the system status and necessary measures, managers can call up live reports at any time and get an overview of special events.

„Employees in 24/7 shift operations must be able to communicate quickly, transparently and efficiently across different departments and hierarchical levels. To do this, they need a common platform that provides real-time information."

The most important advantages at a glance





Basic Features

Enterprise Platform for Optimized Communication and Collaboration

The communication and collaboration platform Shiftconnector® is considered to be a **Single Point of Truth (SPOT)**. Thanks to the SPOT principle, the software provides a generally applicable database that makes live data available to various stakeholders or roles within manufacturing. The web-based software solution connects all relevant teams and departments whilst improving communication between those involved at every level. Digital recording of the data not only makes the information accessible and transparent, it also leads to greater **consistency in information gathering**. At the same time, user-defined views and overviews are made available to the various roles. This significantly simplifies process management.

This digital solution for shift communication and documentation also enables **decentralized data collection**. Every shift worker is able to document data and information. The data records are used on all **terminals** that are accessible. This means that everyone, from the system operator to the shift manager, is up to date when the information is accessed. As the "eyes and ears" of teams, plant operators can add **videos and photos** to the record. This adds significantly more context to the information. The information can also be communicated to members of the company and site management, even if they are **working from home** at the time.



Thanks to features such as e-signatures, task assignments that go across shifts and departments as well as **the binding documented handover** of responsibility, the entire shift operation is **audit-proof**. Incidents and system states are recorded with prioritization and status. Recurring tasks for shift personnel can be easily planned, whilst completion is reported with just two clicks. On top of this, predefined, customizable overviews and evaluations, e-mail reports and dashboards all make meetings and reports clear and efficient - especially during **shift handovers** and **morning meetings**. Completed tasks are simply ticked off and measures can be converted directly into instructions. The use of **visualizations** means QM deviations or OEE key figures are recognizable at a glance.

If requiring **root cause analysis** in the event of faults, Shiftconnector® has powerful filter and AI-based search functions. Efficiency increases by constantly checking deviations and communicating improvement measures directly to the shift teams. In addition, the needs of the production companies can be mapped individually with the help of XDC free forms. Global fields and forms can be used company-wide as a standard, and additional local features can be mapped.

The standardized process means that Shiftconnector® powers an audit-proof, documented handover that almost eliminates sources of error, making manufacturing even safer and more efficient. Switching to a digital solution involves very little effort, yet results in quick and effective improvements within digitized production processes.

Customized solutions through add-on modules and interfaces

io.Performance – Real-Time OEE for Your Systems

Shiftconnector® io.Performance offers simple OEE live analyzes of target specifications, downtimes, quantities or batch runtimes for a continuously improving production process. io.Performance simplifies OEE recording in all production environments, including batch, semi-continuous and fully continuous systems or in discrete production. The methodology and reporting can thus be standardized throughout the company. Losses in system availability, speed and quality are visible live and can be evaluated using customized reports.

io.Equipment Cleaning and Use Log for GMP Logbooks

With Shiftconnector® io.Equipment, eschbach provides a solution for a comprehensive plant overview and compliance for both pharmaceutical and biotechnological production. eschbach has developed suitable processes for development, implementation, training and maintenance of a digital plant process management solution. We work according to the relevant standards, such as chemical/pharmaceutical GMP/GAMP and are also certified in accordance with DIN ISO 9001 and ISO 27001. With io.Equipment® from eschbach, companies achieve significant improvements in the documentation and information needed to keep GMP logs whilst supporting the daily work of the shop floor team and in the clean rooms. The advantages of io.Equipment® include improved transparency and an overview of all device-related events, such as production, cleaning, maintenance, malfunctions or calibration. Information can be consolidated and includes an audit trail of all records in accordance with FDA CFR 21, part 11. Improvement of the information flow also occurs through location-independent access to the web-based solution.





Consulting & Implementation Approach for Process Optimization

Analysis

- Requirements analysis
- Identification of improvement potential
- Ideas for increasing efficiency in shift documentation

Solution conception

- Development of a solution concept
- Configuration of Shiftconnector®
- Interfaces to existing systems
- Customers - tailored extensions

Commissioning

- Proven introductory concept for shift operations
- Installation
- Training

Operation

- Service and support agreement (SLA), also optionally 24/7
- Private cloud hosting in a German data center, certified according to ISO 27001, is available on request
- Delivery of software updates

Change and project management

Competence and experience at eschbach

- Good Manufacturing Practice (GxP), FDA 21 CFR 11 und ISO/TS 16949
- 20 years of experience working with and advising many companies in the process industry
- Introduction and installation for thousands of users
- Projects and implementations worldwide

Effortless integration into your IT environment

- eXtendable Data Concept (XDC) - Maximum adaptability and open interfaces through a flexible database
- Connection to ERP and maintenance systems (including SAP® PM/MM/PP)
- Integration of process signals from PLS/SCADA
- Integration of EHS, LIMS and QM systems



Important Advantages for Different Departments and People Within Production

With the use of Shiftconnector®, all relevant information is available live at a glance for everyone involved in the process from the various hierarchical levels. This results in the following advantages for the respective roles in production:

Operator

- Effortlessly record quantities, measured values, batch and system status, also via PLS connection
- Simply report and document special incidents or faults
- Shift and routine tasks are clearly presented
- All information from the previous shift at a glance

Shift management

- 360° summary of all new information since last presence
- Bindingly documented shift handovers
- Organize shift tasks easily and see the processing status at any time

Day supervisor

- All new shift information overnight or over the weekend at a glance
- Summary of important KPIs, such as OEE or batch numbers from previous shifts
- Easily schedule tasks, issue maintenance orders and track status
- Give instructions directly to the shift, such as changed driving styles

Process engineers

- Key figures such as plant efficiency (OEE) for each shift are available with a click
- Processes are under control: easily find anomalies, downtimes, losses and causes
- Management of change: precisely communicate changes and have them confirmed
- Keep an eye on improvement measures, validate them and create reports easily

Management

- All special occurrences are processed in a condensed format, such as safety, quality and productivity
- Perfect preparation for an efficient morning meeting/tier meeting
- E-mail reporting based on predefined categories
- Remote access to all shift communications via web browser or iPad/tablet

Maintenance

- Seamless exchange of maintenance orders and status with shift teams
- Easy organization and documentation of autonomous maintenance
- Enter data only once: interface to maintenance systems such as SAP® PM, IBM® Maximo, Infor® EAM

Quality Assurance & Laboratory

- Quality reports and shift deviations live at a glance
- Simple search for information, measured values and causes
- CAPA: direct instruction of shift personnel and monitoring of actions
- Easy ordering and tracking of special samples, also via LIMS interface
- Direct instructions to the shift teams, such as increased frequency for recording measured values



Conclusion

Shiftconnector® ensures significant cost savings, increases in efficiency and improves product quality. The solution architecture of Shiftconnector® supports your IT landscape and operational excellence in the process industry. A central part of our strategy: employees optimally and interactively networking with each other whilst continuously expanding their knowledge. In general, it is and remains important to clearly define the focus of the solutions. Standardization and local adaptations play just as important a role for us as a guided, solution-oriented change management process that is tailored to the end user.

Smarter, safer, stronger plants with Shiftconnector®

In tune with the times: the fast pace of technology requires continuous optimization. As a cloud solution, Shiftconnector® is always up to date with developments. Find out more at eschbach.com.

We inspire industrial teams to work smarter.

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Interested? Contact us for further information!



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About eschbach and Shiftconnector®

For over 20 years, we at eschbach have worked with leading companies to provide the smartest digital solution for shift operation. Our people-centric enterprise platform Shiftconnector® helps industrial teams to work more safely, increase efficiency and drive continuous improvement. Global players such as BASF, Albemarle, DuPont and Roche trust in Shiftconnector®.

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