



Let Digitalization
Work for You:
**Optimizing
Turnaround Safety**

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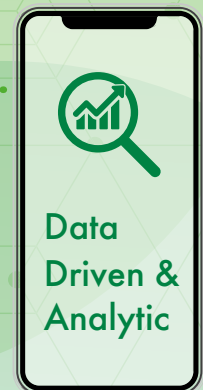
Turnarounds are highly complex and involve special challenges that make them unlike other large-scale industrial projects. They demand extremely precise coordination and efficiency as well as substantial investment. Today, innovations are available to support turnaround success and deliver quality and peace of mind around safety issues. In this context, digitalization, far from something to fear, is an invaluable tool for Health, Safety and Environment (HSE) departments.

Turnaround Challenges, Technology Solutions

A planned **turnaround** is a period of time set aside by an asset owner to complete required inspections or updates, carry out major maintenance and perform other tasks that cannot be done while the plant is in operation. These multi-million-euro projects can take a few weeks to several months, depending on their size and scope. Since no revenue is generated during the turnaround, pressure is high to keep downtime as short as possible.

There are many hazards associated with turnarounds as well. First of all, contractors join the regular employees on site, working in a space designed for fewer people. Since much of the work is not routine, additional or unfamiliar hazards may arise. These include gas leakages or other unwanted discharges; people working at height; **substances** under pressure; and many more. If safeguards fail or accidents occur, human safety is at risk. The consequences can also reach beyond the worksite to affect the surrounding environment.

Fortunately, technology today offers solutions to turnaround challenges. Many HSE processes, such as inductions, Permit-to-Work (PTW)

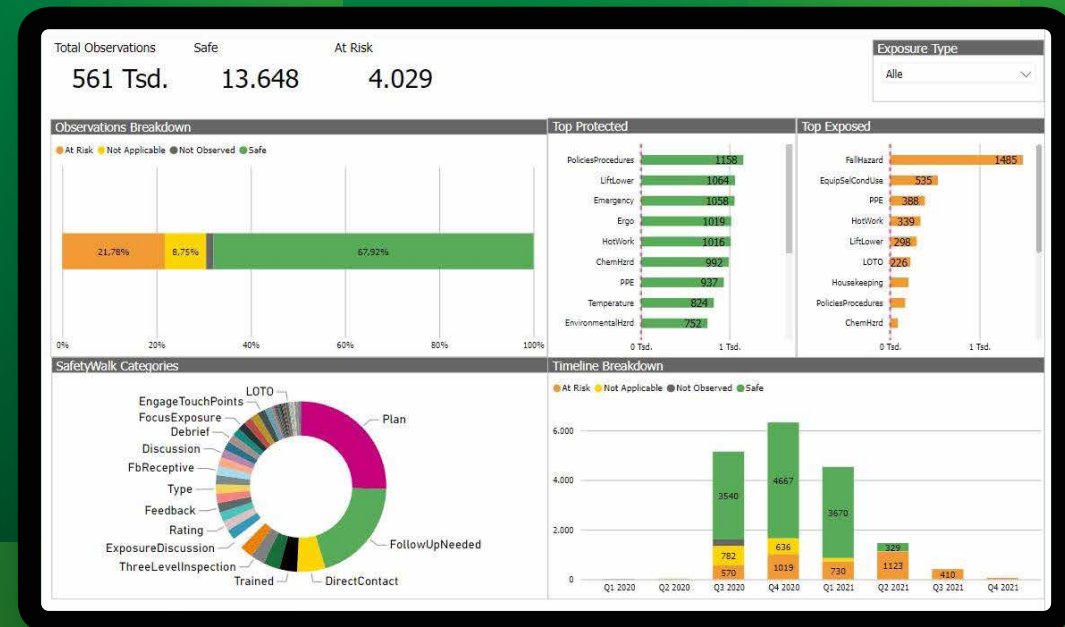


procedures, data collection, reporting, scheduling and monitoring can be streamlined and improved through digitalization. Moreover, digital platforms provide a forum for communication and knowledge sharing that contributes to site safety and turnaround success. Digitalization has great potential to support turnaround projects. Some key advantages are considered in detail below.

Flexible, Accessible Digital Inductions, Safety Walks and Tool-Box Talks

During a turnaround, inductions are especially important. They are required for every person working on site, and they communicate essential safety information. Because so many contractors are involved in turnaround projects, the traditional way of conducting these sessions—in person at a central location—can lead to very long lines and can delay the start of work. Digitalized inductions prevent these bottlenecks. Workers can view them on a mobile or other device before they arrive on site, eliminating waits. A variety of formats, from videos and animations to questions and quizzes, can be used so that the induction is more interactive and engaging. Digitalization also makes it easy to track who has completed the induction satisfactorily.

Safety walks and tool-box talks also benefit from a digital component. This might be a pre-designed checklist, for example, to accompany the designated topic. These elements would be available for viewing on a mobile device and could potentially be accessed on demand. The on-demand feature allows workers to refer to the content as often as necessary and from any location, whenever they need a quick refresher.





Optimized Permit-to-Work Process

With so many people engaged in so many different tasks during a turnaround, keeping track of where, when and what workers are doing is an ongoing challenge. That is why, before any work can begin on site, it has to be approved with a Permit-to-Work (PTW).

Digitalizing the PTW process not only reduces long lines and wait times, it also saves money. What once required paperwork and a physical presence at a designated place, can now be done digitally and remotely. Instead of writing responses on an application form, users click to answer questions on a mobile device. Instead of sketching the worksite, they can submit photographs to document conditions.

A digital PTW process also provides transparency and a clear overview. When scheduling conflicts arise, a digital system can recognize them quickly and assist with rescheduling. This keeps workers safe and work completed on time.

Easy and Accurate Data Collection and Analysis

Access to data and data analysis is quite beneficial to the success of turnaround projects. With timely information and clear data visualization, decision-makers can

be more proactive. Instead of simply reacting to events as they occur, they can identify trends sooner and with greater accuracy. As a result, they are able to allocate resources more effectively and with less waste. Not only does the site become safer, but time and money are saved.

Digital tools make collecting and analyzing site data easy. For example, workers can input information on a hand-held device or processes can be configured to gather and analyze data automatically. No longer will information be lost because people didn't have the opportunity to document it or the time to analyze it.

Internet of Things (IoT) Capabilities

Technology is, of course, already an integral part of turnaround safety. Sensors and alarms are in place to alert people when safety limits are breached, for example. By linking these functions to a digital platform, responses can be even more immediate. For instance, if a sensor detects a gas leak, that information is related to everyone with access to the platform, on and off site. If additional instructions need to be announced in response, that can also take place instantaneously.



Companies Know It, the DEKRA Safety Platform Can Show It

Asset owners, contractors, **HSE experts** and all of the other professionals involved know what needs to be done to ensure a successful turnaround. Digitalization helps them coordinate this knowledge, track progress and make sound, timely decisions. The **DEKRA Safety Platform** (DSP) is a digital tool designed to support HSE efforts, boost turnaround efficiency and deliver peace of mind where safety is concerned.

The DSP provides all of the functions outlined above. It is important to emphasize that the DSP does not replace systems, processes and procedures that have been developed to guide a plant through past turnarounds. Instead, it integrates pre-existing documents and approaches and can connect with other management systems so that all relevant information is at users' fingertips via a mobile or desktop device. Of course, new information can also be added or changes made—the tool is fully customizable.

Peace of Mind Is Priceless

The potential benefits of digital tools like the DEKRA Safety Platform go beyond the specific examples discussed here. It should, however, be clear that the DSP is capable not only of helping keep turnarounds on time and on budget, but of enabling higher quality work and a safer worksite. This can happen when everyone on site is able to focus fully on the task at hand, without distractions. In the end, the most valuable gift that the DSP delivers is peace of mind.



Vincent Grijfrath

Vincent Grijfrath has a background in electrical and process engineering and brings first-hand experience to the field of turnaround safety, having managed several large projects and turnarounds for both contractors and asset owners. He holds a degree in Business Administration and currently works as Vice President and Global Service Group Manager Operational Safety at DEKRA.



DEKRA Consulting

DEKRA Consulting combines evidence-based science, cutting-edge technology, and internationally renowned expertise to create innovative safety solutions for today and tomorrow. We aim to lead safety transformation at the workplace and business practices, within operations and processes as well as in the dynamic and rapidly changing digital era. Since organizations require diverse approaches to protect their operational business environment, data, people and processes, we designed our services as multi-faceted as your needs to support you in any safety issue. For more information, visit www.dekra.com/consulting

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