Insite LMS

and THYSSENKRUPP UHDE GMBH

Photo: thyssenkrupp Uhde GmbH

PIPE WHISPERERS!

MATERIAL CONTROL IN EPC PROJECTS

EXPERT INTERVIEW

BULK MATERIAL UNDER CONTROL

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How do you create transparency around bulk material and ensure the buildability of complex piping systems? Markus Mook, Head of Construction Materials at thyssenkrupp Uhde, shares insights and practical advice on selecting, implementing, and using Insite LMS for construction site management and materials management.

Piping construction is a critical discipline within chemical plant construction. Success depends on knowing which bulk material is available, where it is located, and which piping systems can be constructed with it at any given time.

1. WHAT SPECIAL REQUIREMENTS DOES PIPING CONSTRUCTION PLACE ON MATERIALS MANAGEMENT?

Markus Mook: In piping construction, we deal with what is known as bulk material - repetitive components such as pipes, flanges, valves, bolts, and gaskets. Bulk material can be installed in numerous locations throughout a plant. A specific pipe elbow, for example, may appear many times across an entire piping system.

Based on the engineering design, we know which component is required in which piping system. However, when material arrives on site, it is not yet known where a specific individual elbow will ultimately be installed.

Another key characteristic of piping construction is prefabrication. Piping components are welded together in advance to form larger units known as spools.

Flanges, pipe elbows, and other components are therefore assembled before installation. This can take place either directly on site or at a separate fabrication facility. On-site prefabrication allows for larger and more complex assemblies. Off-site prefabrication, on the other hand, must remain within transportable dimensions so that components can fit into containers or trucks.

In addition, material deliveries are spread over an extended period. When prefabrication begins, warehouses are often not yet fully stocked.

You must be able to respond flexibly to all of these conditions.

„Insite LMS enables us to manage the bulk material required for piping construction in the most effective way possible. We know what is in the supply chain, what stock levels look like, and what can be built and when. To achieve this, we rely on Insite LMS buildability analysis functionality.“

MARKUS MOOK
Head of Construction Materials
thyssenkrupp Uhde GmbH

2. WHAT REQUIREMENTS MUST SOFTWARE FOR PIPING CONSTRUCTION MEET?

Markus Mook: The solution must help us avoid material shortages and downtime. Material flow has to be managed in a way that ensures sufficient material is always available on site to keep planned work packages fully productive.

More specifically, the software must answer questions such as: What can be built using the current inventory and the material already in transit? Which materials are currently on their way to site?
If large quantities are expected to arrive, how many subcontractor resources need to be mobilized to process the work efficiently?

The buildability analyses in Insite LMS are particularly valuable for us. They allow us to determine in advance whether the required bulk material will be available for specific installation dates and piping systems, and to reserve that material accordingly.

3. HOW DID YOU COME TO USE INSITE LMS?

Markus Mook: It was actually a happy coincidence.

Before Insite LMS, we relied on an internally developed solution. Around nine years ago, it became clear that support for this system would eventually be discontinued, so we needed a replacement.

After an initial market assessment, we once again decided to pursue an in-house development approach. At a VDMA construction conference, however, my manager met one of the founders of INSITE IT.
They started talking, and what began with a simple “Let’s take a look at it” eventually evolved into an initial demonstration, a formal evaluation phase, and ultimately productive use of Insite LMS. Since then, Insite LMS has become our central construction site management solution across all projects where thyssenkrupp is responsible for installation activities.

THOUSANDS OF ISOMETRICS? EASY.

4. WHAT WAS THE DECIDING FACTOR IN CHOOSING INSITE LMS?

Markus Mook: Two factors were decisive in our decision to adopt Insite LMS. First, we recognized a very large portion of our processes within the software. Our operational workflows were covered exceptionally well. Second, the solution stood out because of its modern software architecture.

The platform appeared sustainable, future-proof, and built for long-term use. That impression has proven correct. An internally developed solution would never have achieved the same level of maturity and sophistication. In fact, our expectations were clearly exceeded. Originally, we were only looking for a replacement for our materials management system.

However, the platform is so comprehensive and versatile that we have continuously expanded its use by introducing additional modules.

5. HOW DID THE IMPLEMENTATION PROCESS GO? WAS THERE ANY INTERNAL RESISTANCE?

Markus Mook: There was no significant resistance. The key was bringing all stakeholders and responsible departments together and preparing everything in a way that complied with corporate approval requirements. Data security and data privacy, in particular, played a central role throughout the process.

Together with a colleague, I drove the implementation forward to ensure that our legacy in-house solution could be replaced on schedule. This was particularly important to me because our projects typically run for three to five years, and I wanted to avoid finding ourselves in the middle of a project without a suitable software solution.

The feedback I receive from users is consistently positive. They especially appreciate the platform's ease of use. If there is any criticism at all, it relates to data quality rather than the solution itself. Data is often generated in upstream systems and may require harmonization before it can be used effectively. When it comes to Insite LMS itself, however, there is no negative feedback. On the contrary, the platform has become a self-sustaining success within our organization.

6. WHAT ARE YOU CURRENTLY USING INSITE LMS FOR, AND WHERE IS THE JOURNEY HEADING?

Markus Mook: Today, we primarily use Insite LMS for materials management as well as feasibility and constructability studies. At the same time, we continuously evaluate additional modules. Currently, for example, we are assessing the time tracking module and the commissioning module for future deployment.

7. WHAT ELSE IS IMPORTANT IN DIGITAL MATERIALS MANAGEMENT?

Markus Mook: A system can only be as effective as the way it is used. This is why one major topic is data

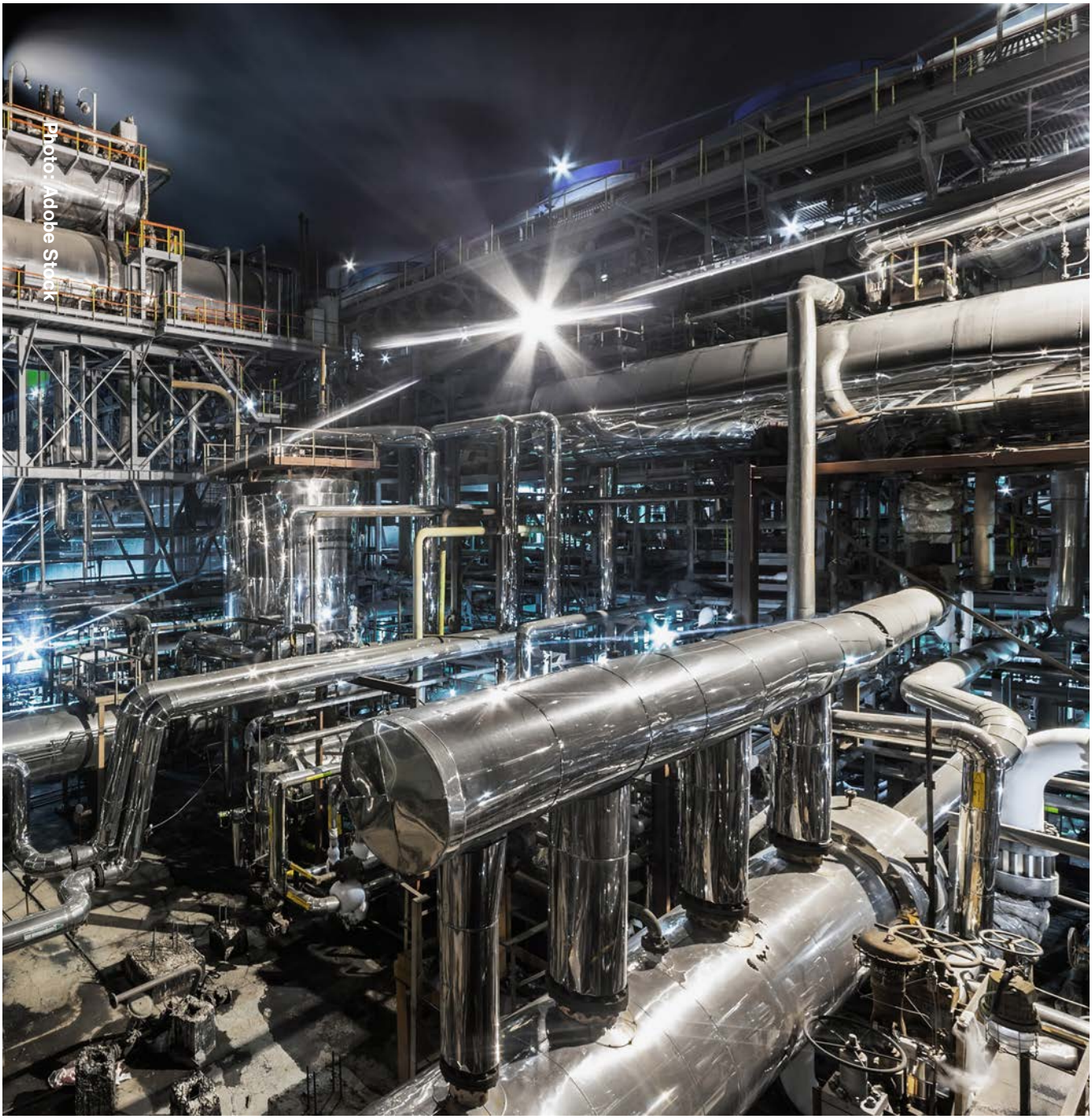


Photo: Adobe Stock

preparation. Data originating from different source systems often needs to be interpreted and prepared differently for materials management purposes.

A budget-driven system such as SAP, for example, requires materials to be assigned to cost centers. Procurement and logistics, however, often view the same materials from a different perspective, one that is largely driven by packaging and transportation requirements.

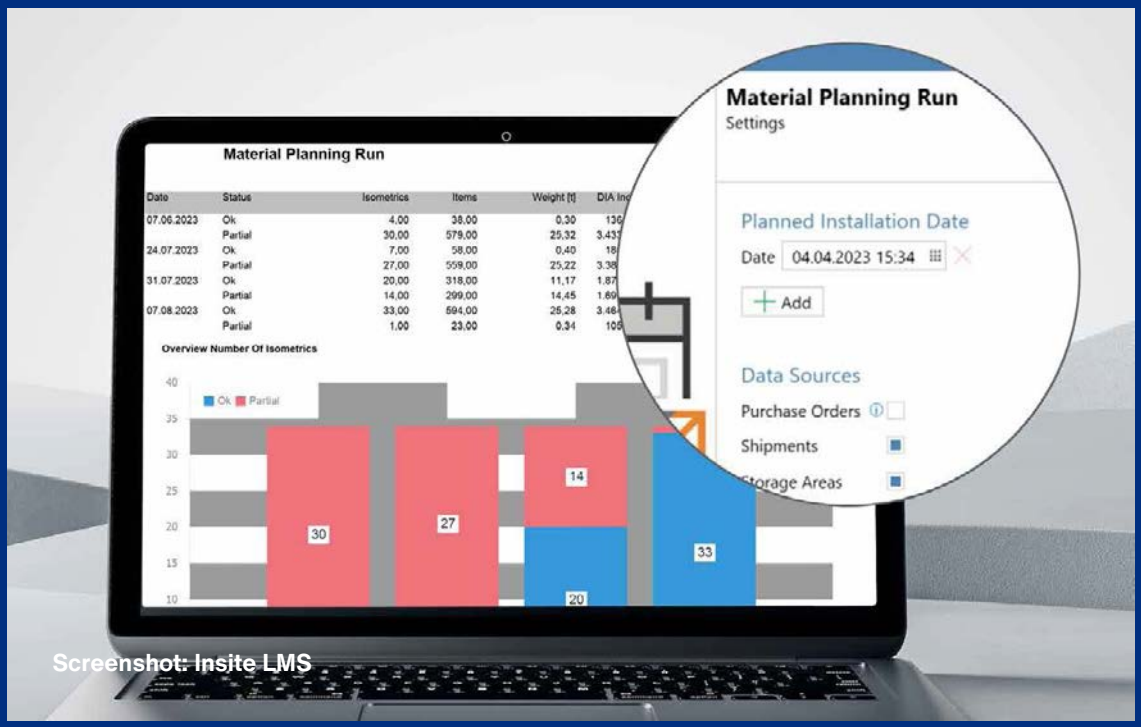
For example, logistics may ship “10 pallets of piping material weighing one ton each.” On the construction site, the immediate question becomes:“What exactly is in those pallets?” Site teams need to know which pipe elbows are included and in what quantities. In some cases, these details are simply unavailable because upstream processes never required them. This creates unnecessary effort and additional work on site.

We are currently testing the Insite LMS logistics module. It allows us to identify data quality issues much earlier in the process and intervene before materials arrive on site.

As a result, we avoid unnecessary effort throughout the supply chain and on site.

Photo: Adobe Stock

BUILDABILITY ANALYSES



Screenshot: Insite LMS

Buildability at the Push of a Button

Using a Material Planning Run, thyssenkrupp Uhde can determine which piping systems can be constructed on a specific date using the available bulk material.

The buildability analysis functionality of Insite LMS was developed together with thyssenkrupp approximately nine years ago. The feature enables project teams to determine, at the push of a button, which piping systems can be built using bulk material that is already in stock or scheduled for delivery.

Both perspectives are covered within Insite LMS. Material perspective: Which bulk material is available, where is it located, and when will additional quantities arrive? Piping perspective: Can a specific piping system be constructed at a particular point in time using the material that will be available then? To achieve this, the material number serves as the key identifier throughout all project phases — from engineering and procurement through packaging, logistics, storage, and final installation.

To perform a buildability analysis, users launch a Material Planning Run within Insite LMS. During the planning run, a target installation date is defined. The materials to be considered are selected, including: material already in stock, material currently in transit, material already ordered. Following the planning run, the required material can be reserved directly for the piping systems scheduled for installation on the selected date.

THE RIGHT CHEMISTRY

„We saw a strong reflection of our own processes in the software. Our workflows were covered exceptionally well.“

MARKUS MOOK
Head of Construction Materials
thyssenkrupp Uhde GmbH

8. WHAT IS YOUR CONCLUSION AFTER MORE THAN NINE YEARS WITH INSITE LMS?

Markus Mook: I am very glad that I challenged our original decision to rely on another in-house development and that we decided to evaluate Insite LMS instead. The platform has significantly simplified construction site management: Today, we would no longer be able to manage our projects as efficiently without this software. I receive positive feedback about Insite LMS from all sides — not only from end users but also from our IT department. Even before Insite LMS, we were already working with software solutions rather than paper-based processes. Nevertheless, many activities are considerably easier today.

I also have only positive feedback regarding our collaboration with INSITE IT. In day-to-day operations, our primary point of contact is the helpdesk. We consistently receive practical, solution-oriented support. What I particularly appreciate is that INSITE IT always challenges requirements constructively: “Why do you want to do this? What is the actual objective?” Based on those discussions, they typically propose a solution that helps us achieve our goals in the most efficient way possible.

EXPERT TIPS

What should companies keep in mind when introducing a new software solution? Markus Mook, Head of Construction Materials at thyssenkrupp Uhde GmbH, shares three practical recommendations.

Markus Mook:

TIP 1: CHALLENGE EXISTING PROCESSES — AND IMPROVE THEM

A system replacement or new implementation should always be used as an opportunity to rethink existing processes rather than simply reproducing them one-to-one. Why? Just because something is done a certain way today does not automatically mean it is the best way. Digitalization projects should be used to identify optimization opportunities, improve workflows, and implement those improvements consistently. In general, the selected solution should support existing processes, enhance them, and remain flexible enough to adapt to future changes.

TIP 2: DON'T ACCEPT SOURCE SYSTEMS AS PROCESS DRIVERS

Sometimes the available data pushes organizations in a direction they would not intentionally choose. My experience is that this should never be accep-

PIPING CONSTRUCTION AT THYSSENKRUPP UHDE

thyssenkrupp is an international industrial group that designs, builds, and commissions large-scale plants around the world. Within chemical plant construction, piping construction plays a critical role. A typical large-scale piping construction project at thyssenkrupp Uhde includes:

40 Months Project Duration

10.000 Tons of Piping Material

Up to **10.000** Isometrics

2.000+ Employees And Subcontractors On Site

ted without question. Instead, evaluate where and how you can influence the process and improve the underlying data structure. The introduction of a new solution is often the ideal opportunity to make those changes and establish better standards from the start.

TIP 3: MAKE CONSCIOUS DECISIONS ABOUT CUSTOMIZATION AND MODULES

Organizations that use Insite LMS for construction site digitalization can choose from a wide range of modules and configuration options.

My experience is simple: Many roads lead to Rome. Insite LMS offers multiple ways to achieve the same objective, and many requirements can be implemented in different ways. However, the further an organization progresses in its rollout, the more difficult it becomes to reverse earlier decisions. When in doubt, consult INSITE IT or exchange experiences with other INSITE IT customers before making major configuration choices.

About Markus Mook

Markus Mook has more than 20 years of experience in construction site materials management and serves as Head of Construction Materials at thyssenkrupp Uhde GmbH. He studied mechanical engineering and has two children.

We would like to thank Markus Mook for the interview and for the successful collaboration.

Material Under Control.
Buildability in Focus.

Insite LMS - The Platform For Industrial Construction Sites

All project data in one system.
For greater control in EPC projects.

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