

How Technology Can Enhance Team Collaboration and Increase Productivity

by Bosch RefinemySite



RefinemySite

Empowered collaboration



Rafael Franca
US Business



Andrew Ortman
US Business



Karina Kuyek
Lean Specialist



Stefan Gaa
Global Product Owner



About Bosch Figures

In 2020



85

billion USD sales
revenue



2.5

billion USD EBIT
from operations



398,000

Bosch associates
worldwide at year-end
(approx.)



440

subsidiaries and
regional companies in
more than 70 countries

Most Innovative companies for over 100 years

For over 100 years, among the most innovative companies

Rank 1-10	 (+2)	 (-1)	 (-1)	 (+0)	 (+0)	 (+42)	 (+16)	 (-1)	 -	 (-2)
Rank 11-20	 (-2)	 (+5)	 (+29)	 -	 (+29)	 -	 (-11)	 (+0)	 -	 (+21)
Rank 21-30	 (-5)	 -	 (+6)	 -	 -	 (-12)	 (+1)	 (-18)	 -	 -
Rank 31-40	 -	 (+6)	 -	 -	 (-2)	 (-16)	 -	 (-14)	 -	 (-10)
Rank 41-50	 (-4)	 -	 -	 (-5)	 (-13)	 -	 -	 -	 -	 (-29)

(+/- n) indicates change in position from MIC 50 in previous year; no changes noted for new entrants. Source: BCG Global Innovation Survey

Innovation is part of our DNA

Our research and development

In 2020



7.1

billion euros
R&D expenditure



8.2%

R&D intensity



73,000

associates work
in R&D, including

34,000
software developers



129

R&D locations
worldwide

22 Patents a day

**5,900 Patents
filed in 2020.**

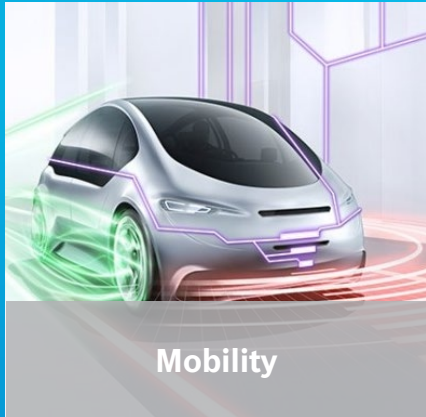
**Nearly 22 per
workday.**



Bosch Global R&D

In 2025, Bosch will be a globally leading IoT company

Making the Shift from Hardware into Software Solutions



Invented for life

**OVER 100 YEARS HERITAGE
SUPPORTING GENERAL
CONTRACTORS AND WORKERS IN
THE CONSTRUCTION INDUSTRY TO
COMPLETE THEIR PROJECTS
EFFICIENTLY**

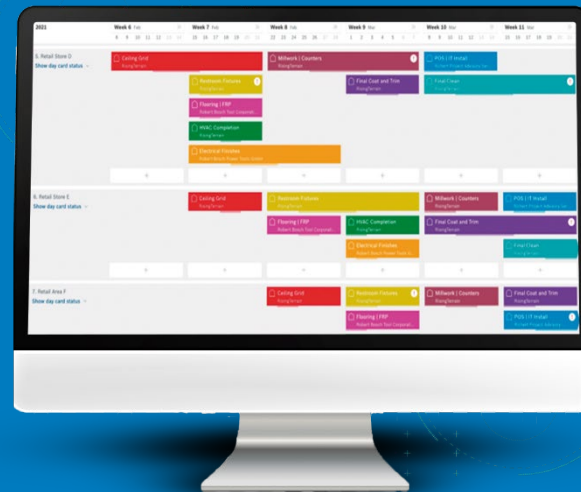
BOSCH POWER TOOLS





RefinemySite

Lean Collaboration Platform



BOSCH RefinemySite

Is a cloud-based construction collaboration platform that applies Lean principles to enable your entire team from manager to trade contractors to plan, communicate, collaborate and execute in real time. Its the digital tool that works in tandem with your Last Planner System® process and puts it all together in one simple collaborative ecosystem.

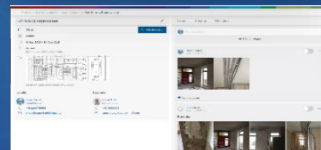
DIGITAL LAST PLANNER BOARD INCLUDING DAYCARDS



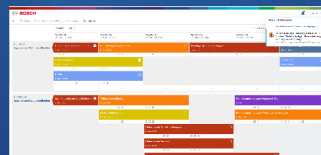
WORK ASSIGNMENT



COMMUNICATION & COLLABORATION



REAL-TIME UPDATES



KPIS OF SUBCONTRACTOR COMMITMENT



UPDATING
ACTIVITY STREAM



NOTIFICATION
TOOL



SET NEED
FOR ACTIONS



EXPORT PDF, CSV
TASK AND WEEKLY



DAYCARD
STATUS INDICATION



PERCENT PLAN
COMPLETE AND
VARIANCES





BOSCH

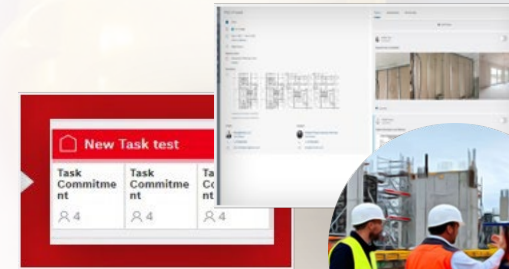
Invented for life



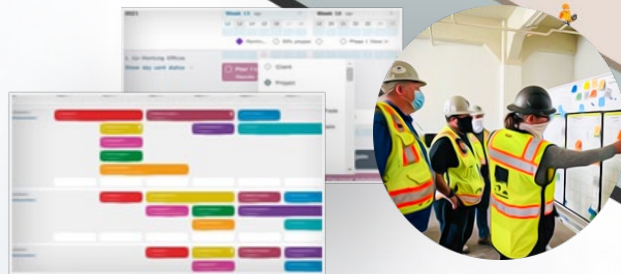
- Real-time data
- Unlimited user per project
- Multiple projects on same dashboards
- Cloud-based, no installation required
- Task-based event log
- Common user pool



Learning/Continuous Improvement



Communication & Documentation (Execution)



Collaborative Planning – Strategy (Social)

THE
LEAN
BUILDER

A Field Walk With....
Steve Turner

Superintendent
Director of Lean Improvement



What Lean process, tool, or methodology has been a game changer to the way you run work in the field?

*Our digital scheduling is done thru Bosch's **RefinemySite** scheduling program. All trades have access to the schedule. They participate in phase pull meetings, and our daily huddles are around a video monitor, updating the schedule in real time as we move through our huddles.*

Bosch **RefinemySite** is endorsed by Superintendents, Trade Partners, the Lean Construction Institute, the Lean Builder Blog, Lean Construction coaches, Jim Rogers of LinkedIn Learning on Construction Management and The Lean Builder.



Bosch RefinemySite

✓ Intuitive

✓ Stellar customer support

✓ Easy-to-use

✓ Strong Brand Trust

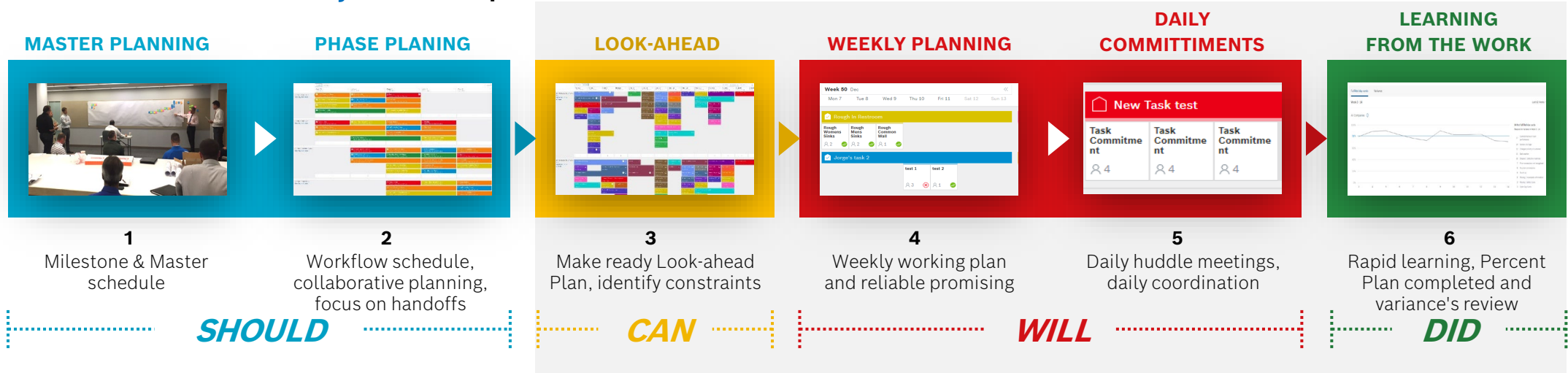
✓ Affordable

✓ Roadmap beyond Lean: BIM, IoT

✓ Focus on the core the LPS



Over 600 projects, 3 regions, 1000+ companies, and > \$7 Bn. in construction volume.



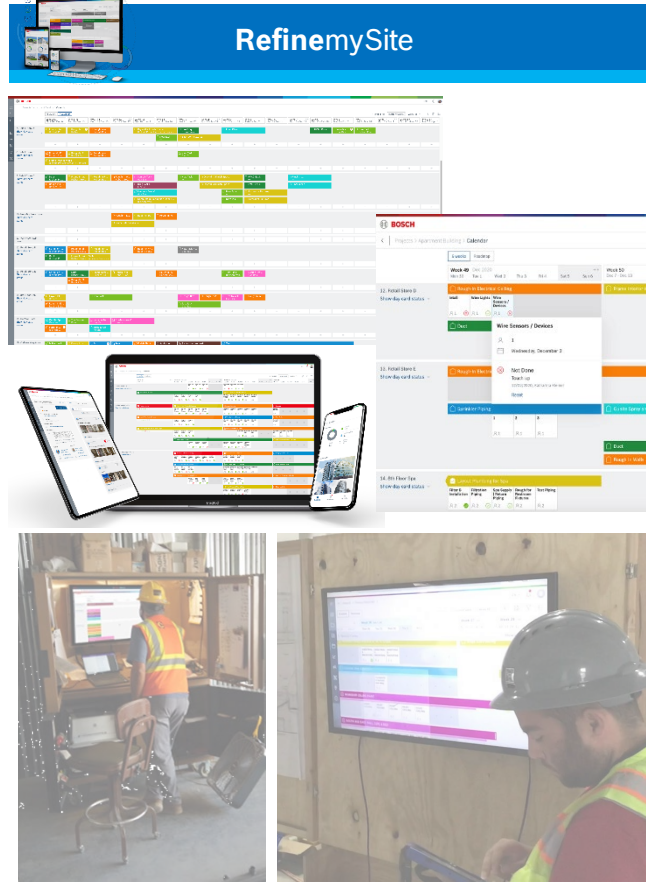
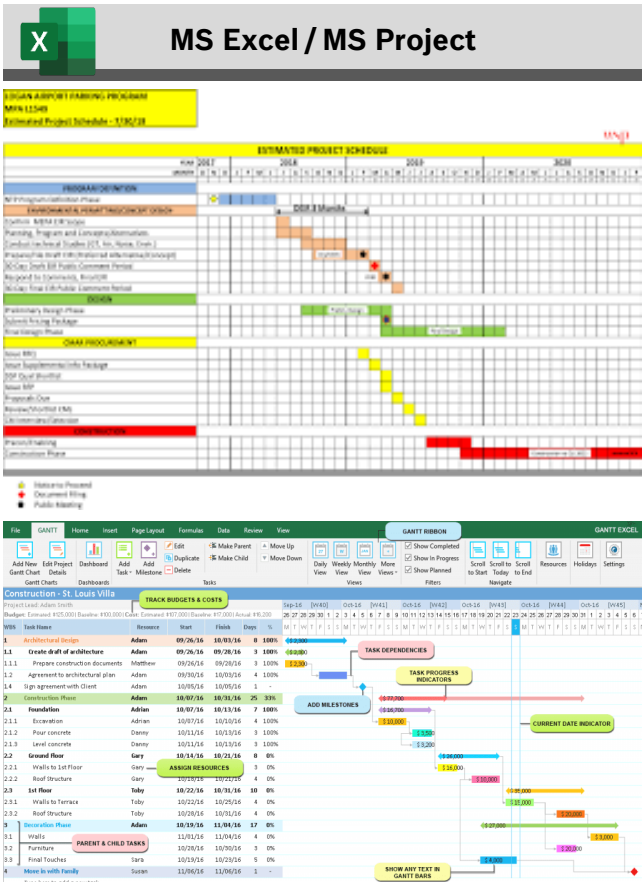
THE LAST PLANNER SYSTEM®			
AS NEEDED	SHOULD	MASTER PLANNING	<ul style="list-style-type: none"> Milestones Master Schedule Establishes promise of project
		PHASE PLANNING	<ul style="list-style-type: none"> Workflow Schedule Collaboratively built plan Focus on handoffs
WEEKLY	CAN	MAKE-READY PLANNING	<ul style="list-style-type: none"> Make Ready Look-ahead Plan Make work ready Identify constraints Commitments to remove constraints Constraint-Log
	WILL	WEEKLY WORK PLANNING	<ul style="list-style-type: none"> Weekly work plan Reliable promising
	DID	LEARNING	<ul style="list-style-type: none"> Daily coordination PPC Rapid learning



Optimize Team Collaboration, Transparency, Visibility and have the information anytime and anywhere.

RefinemySite

Ways teams can implement the Last Planner System®



RefinemySite

How you can implement the Last Planner System®



Boards & Sticky Notes



Most General Contractors implement the Last Planner System® in a traditional manner. However, the investment on boards and future space constraints should be considered from the outset. Additionally, the visibility of the information is limited to the physical boards and sticky notes. Sticky note boards can work well for Master and Phase-Planning, but result in wasted time during execution phases.

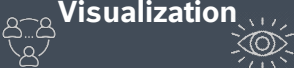
Implementation



Install boards and ensure they are in a visual space for all to see. Sticky notes are easily found through multiple sources.



Collaboration & Visualization



Work areas, disciplines and tasks can be color coded so trades can easily identify their responsibilities **only** when in the room.



Data



Data needs to be manually transferred from paper to other platforms for analysis.



Plus & Deltas

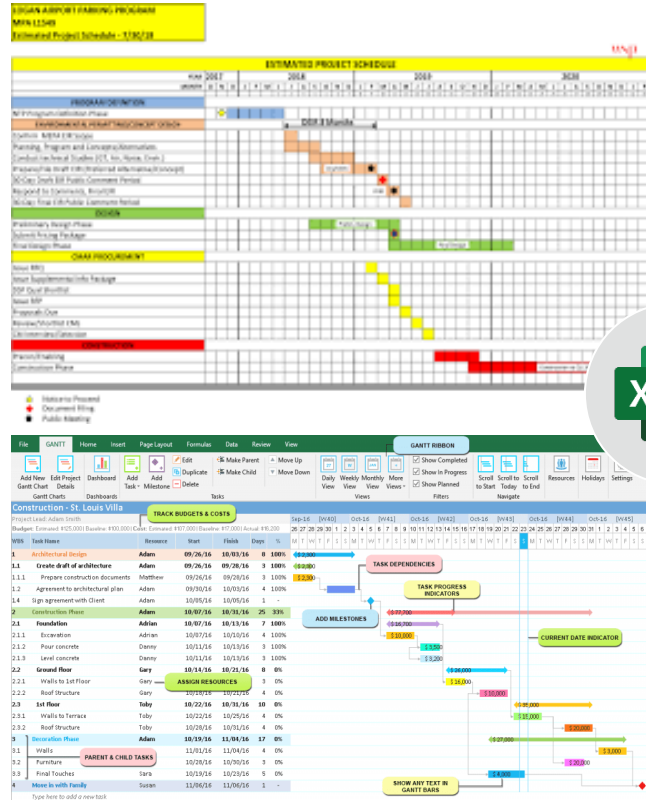
- + Collaborative
- + No software to learn
- + **Some** changes are quick and easy to make
- + Tactile nature of work
- + Some visual benefits

- Little opportunity for data analysis
- Manual reviews
- Information is available only in the trailer
- No real-time information
- Space is limited



How you can implement the Last Planner System®

MS Excel/ MS Project



A centralized digital representation of the sticky notes found in the collaboration room. Team member is responsible for digitizing all phases of LPS® into a spreadsheet. Basic use requires little skill, but full build-out of LPS® in Excel requires specialized skills. File is sharable, but no real-time alerts or added user features.

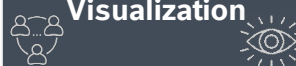
Implementation



Excel software
on a computer
and team
members
equipped to
create
spreadsheet
and formulas.



Collaboration & Visualization



Excel file can be emailed or printed and only works on computer. Basic data visualization is available.



Data



Custom formulas can be created but must be built by hand to meet the purpose of your stakeholders.



Plus & Deltas

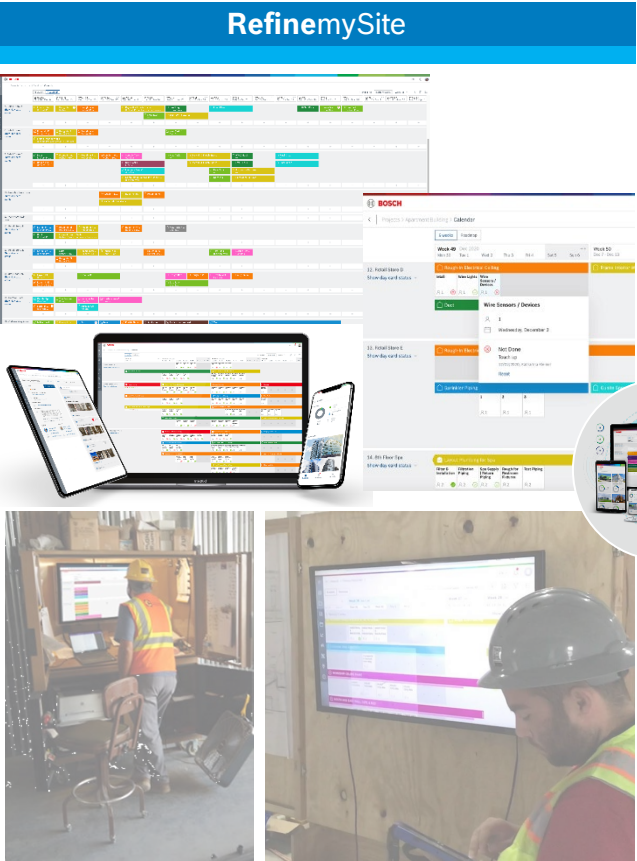
- + Widely available
- + High degree of familiarity
- + Shareable and permanency is improved over paper

- Limited user interface/usability features
- Cannot be shared for real-time updates
- Limited continuous improvement of functionality
- Large administrative burden



RefinemySite

How you can implement the Last Planner System®



Fit for purpose software tool. Built for the needs of professionals to handle routine tasks and optimize results digitally. Can be implemented wherever you are in your Lean journey and adds dynamic capabilities in conjunction with your sticky-note master and phase plans.

Implementation



Cloud based platform that requires one-time registration. Available training recommended for Superintendent and Trade partner. It's easier to train a foremen on **RefinemySite** than on a spreadsheet.



Collaboration & Visualization



Multiple views of the schedule available in real time. Ability to communicate between all team members instantaneously.



Data



Data, including PPC and variances, is calculated automatically through dynamic reports that can be viewed, tracked and shared.



Plus & Deltas

- + Real-time collaboration and communication
- + Transparency and visibility
- + Automatic data calculation
- + Accessibility in the field
- + Intuitive and easy to use
- + Affordable

- Adjustment to learn a digital tool
- Requires registration



RefinemySite

The Digital Potential

LPS® 2.0

Is your team realizing the power of your LPS® process?

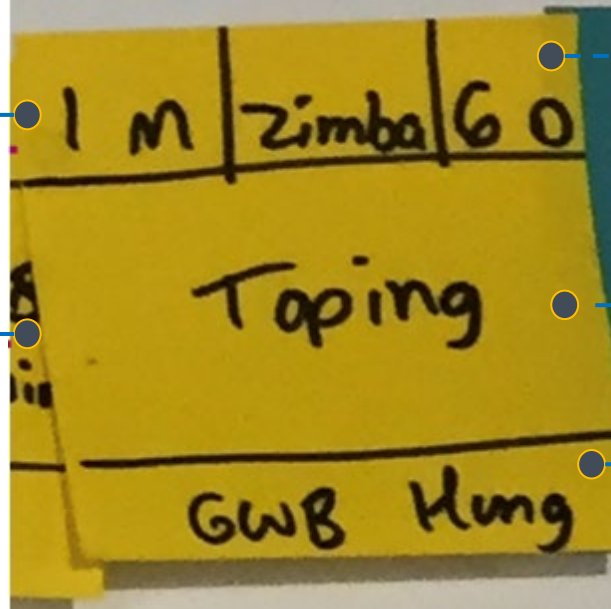
Data on sticky-notes is static and information is lost from project to project. Digitizing the execution portions of LPS® makes your sticky notes dynamic and allows for improvements on the current and future projects, integration, forensic understanding based on work items and mostly, real-time collaboration.

Workflow KPIs

- Constraints Information
- Milestone variance
- Aggregation

BIM

- Visual representation
- Object information



Cost Tracking

- Planned budget
- Actual Costs

Documentation

- 360-degree image
- Construction diary

Logistics

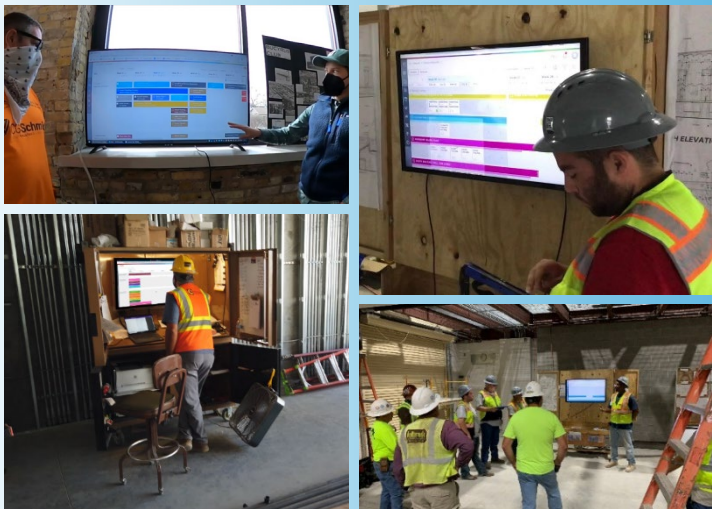
- Real-time tracking
- Scheduling for maintenance / machinery

Productivity is enhanced and value is created when **Physical** and **Digital** project plans work together

Strategy:
Master Plan and Phase-Planning



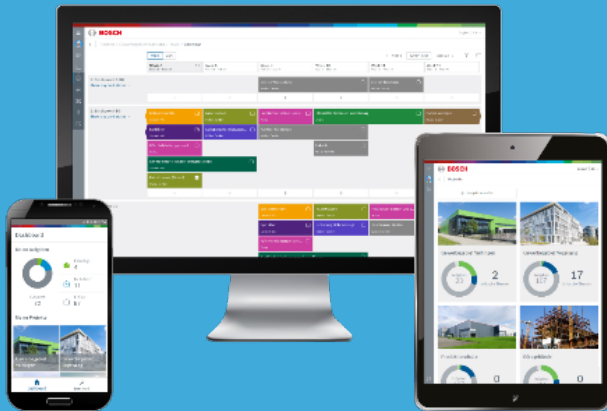
Execution:
Weekly & Daily work



PHYSICAL & DIGITAL

We believe Social and Digital should be connected. Take the advantaged of technology into your jobsite. With Bosch RefinemySite, you get the full benefits of Digital Planning, without missing the social and, enhancing team collaboration.

Achieve better results when People, Processes and Product are aligned.



BOSCH

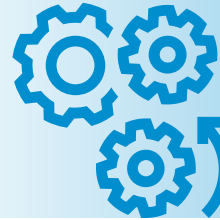
RefinemySite
Lean Collaboration Platform

PEOPLE



- Training, Support
- Enhance Collaboration and Communication
- Easy-to-Use, Learn and apply

PROCESS



- Flow
- Visualization
- Real-time information
- All LPS components
- Eliminates waste
- Transparency

PRODUCT



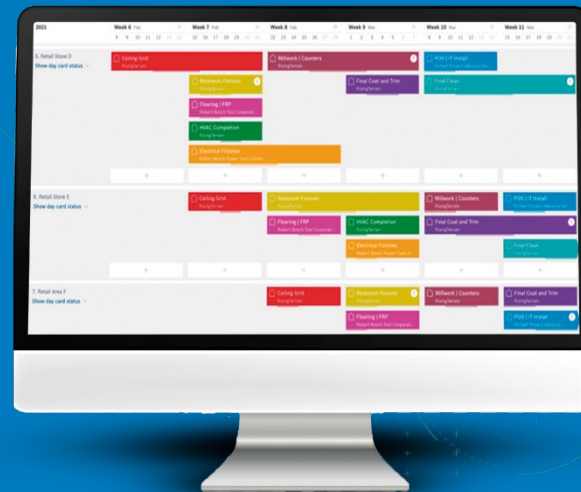
- Ecosystem: Lean-BIM-IoT
- Intuitive
- Affordable
- Trust on the brand
- Cloud-based (no need to install anything)



Demonstration

RefinemySite

Lean Collaboration Platform

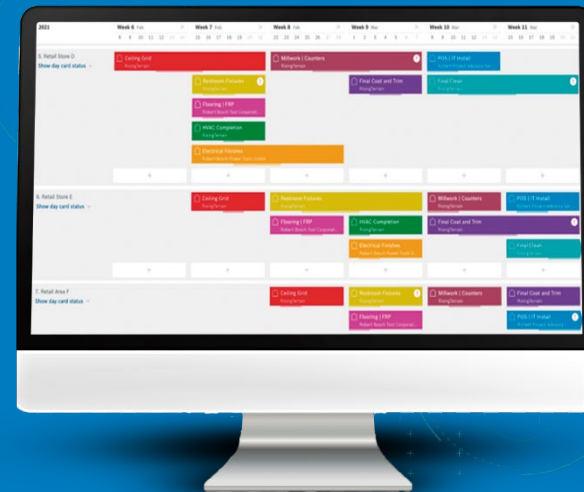




Future

RefinemySite

Lean Collaboration Platform



RefinemySite

What's coming next

Dependencies & Aggregations

The screenshot displays the RefinemySite interface for a project named 'Fasanenhof Grundsanierung'. The main view is a calendar for July and August 2020, showing tasks organized by working areas (1.1, 1.2, 1.2.1, 1.2.2). A task detail panel for 'Install Doors' is open, showing its predecessor (Install Cables) and successor (Milestone craft Y). The task is assigned to 'Open & Close' and has a status of 'Draft'.

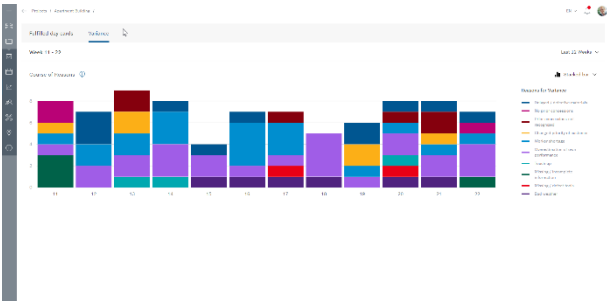
Enhanced Communication

The screenshot displays the RefinemySite interface for a project named 'Project Name'. The main view is a calendar for July and August 2020, showing tasks organized by rooms (Living Room, Kitchen, Bed Rooms, Toilets). A task detail panel for 'Living Room' is open, showing its predecessor (Pipes and Wires) and successor (Sewer Lines and Vents). The task is assigned to 'Bob's Builds' and has a status of 'Draft'.

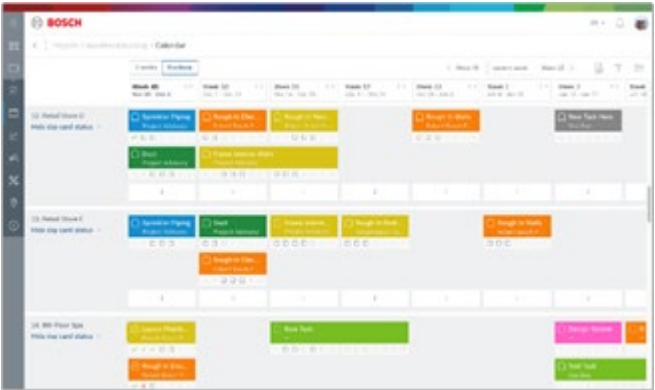
RefinemySite

The future – a connected ecosystem

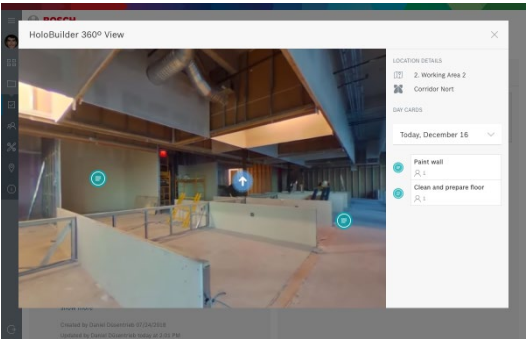
Milestone KPIs



RefinemySite



360°picture documentation



BIM



Cost tracking



Logistics

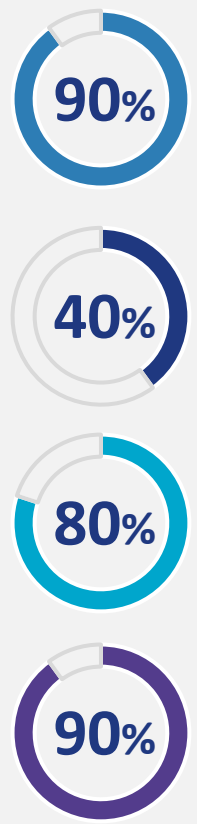


Bosch RefinemySite

How we will support your team?

Our goal is to make adoption of LPS® and RefinemySite easier for your team.

Based on over 600 projects, we've heard the following from teams:



believed RefinemySite is an Easy-to-use and Intuitive.

After the **first onboarding meeting**, said they are ready to use.

Considered themselves confident after the **second meeting** and

Said they are proficient after the **third meeting**.



































92%
of our customers rated our customer support as Excellent.

WHAT WE OFFER:

 1:1 or group training	 Support e-mail	 24/7 support direct with our team
 Lean, LPS, Culture and RefinemySite workshop	 Registration process support	 Access to videos on our YouTube (quick-tips)
 Self-paced training (NextThought)	 Join team meetings with the customer (e.g. Phase Planning)	 Recorded and regular webinars
 Access to one of our Lean Coaches partner	 Dedicated customer account manager	 PDF tutorials
OFFICE HOURS		

Price information – from a project base through enterprise.

60-day free on the 1st year

TEST 		CONSTRUCTION VOLUME: ENTERPRISE UNLIMITED PROJECTS 		
TEST	PER PROJECT 			
<div>\$0</div>	<div>\$250/mo \$3,000 billed annually</div>	<div>\$0M - \$20M  \$100/mo \$1,200 billed annually</div>	<div>\$20M - \$100M  \$500/mo \$6,000 billed annually</div>	<div>> \$100M  \$1,000/mo \$12,000 billed annually</div>
Unlimited users  	Unlimited users  	Unlimited projects  	Unlimited projects  	Unlimited projects  
Access to all features  	Access to all features  	Unlimited users  	Unlimited users  	Unlimited users  
		Access to all features  	Access to all features  	Access to all features  



BOSCH RefinemySite

Contact & Follow us:

E-Mail: refinemysite.us@bosch.com

Website: bosch-refinemysite.us/

LinkedIn: linkedin.com/showcase/bosch-refinemysite

Thank you
RefinemySite

