

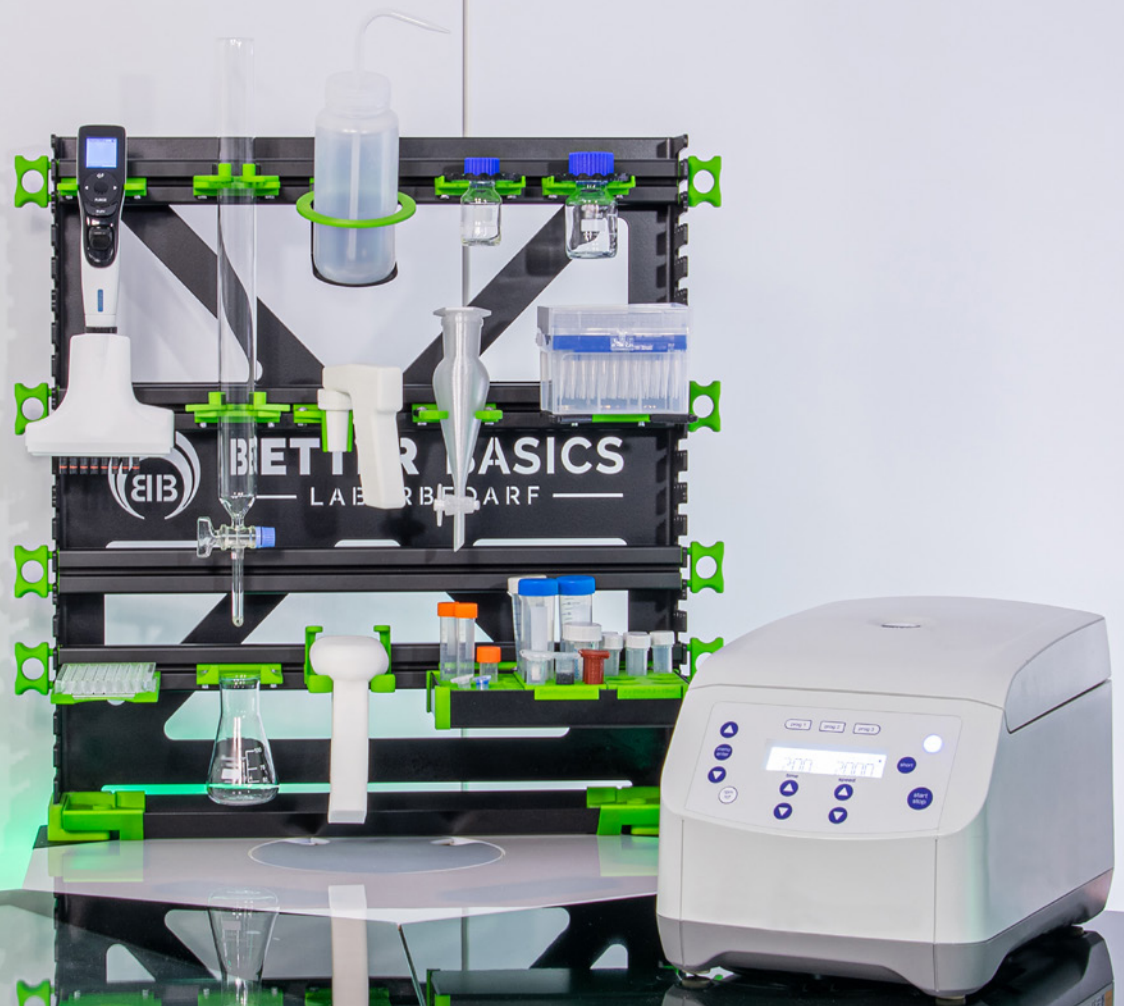


BETTER BASICS
LABORBEDARF

INFORMATION ON LEAN MANAGEMENT

AND INCREASING EFFICIENCY

BY USING THE SMARTRACK®

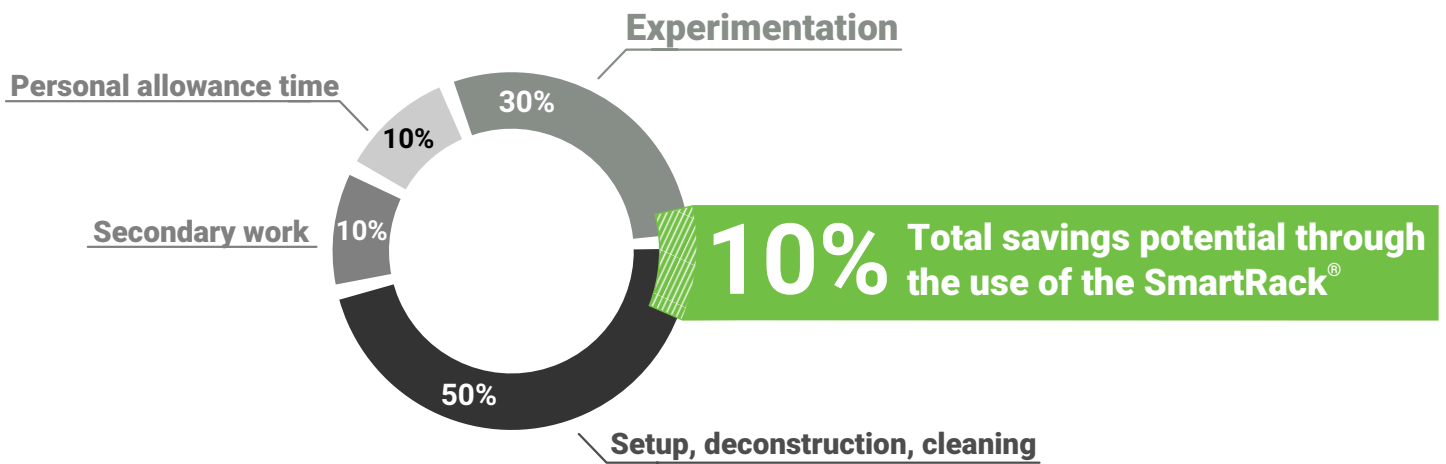


CREATING VALUE WITHOUT WASTE:

10% INCREASE IN EFFICIENCY IN THE LABORATORY

WHEN USING THE SMARTRACK®

- By using the SmartRack®, an **increase in efficiency of up to 10%** is achieved by optimising working hours during the test execution as well as during assembly, disassembly and cleaning
- The SmartRack® is therefore the ideal system for supporting **LEAN management models in laboratories**



Time distribution for classic laboratory work: 10% more efficiency by using the SmartRack®

How can an increase in efficiency of up to 10% be achieved by using the SmartRack®?

The SmartRack® increases efficiency both directly and indirectly, because increasing efficiency and saving space are mutually reinforcing. 10% more efficiency at the laboratory workstation and 80% space savings mean more employees who can work in the laboratory at the same time or more free workspace which can be used by the existing employees, who in turn can carry out more laboratory work per working day. Laboratory work is basically divided into four work steps:

1. assembly, disassembly and cleaning of the test set-up
2. test execution
3. personal allowance time
4. secondary activities.

The SmartRack® allows a larger number of sample vessels, (laboratory) work equipment and consumables to be stored directly at the laboratory workstation. This allows significantly more tests or analyses to be carried out. The potential of increasing efficiency in the work areas of test execution as well as assembly, disassembly and cleaning is explained by the following examples:

During the test execution:

- Error rates are reduced through greater clarity and a standardisation of the workstation
- Samples can be temporarily stored in a space-saving manner and in a structured arrangement, which reduces the risk of confusion
- One-hand operability is possible, which increases occupational safety and ensures greater effectiveness, so that tests do not have to be interrupted
- All the work equipment is located directly at the workstation (e.g. boxes for gloves or tissues, as well as glassware or other work equipment)

- Work equipment is stored more safely hung up than lying down, since no contamination by liquids can occur while hung up (e.g. tipping over of e.g. round flasks is not possible, contamination of pipettes etc. does not occur)
- If additional space is required at short notice in a laboratory fume hood, on a laboratory table or in a safety workbench for test execution, the SmartRack® and the samples and equipment temporarily stored in it can be easily removed or taken down and placed somewhere else.

During assembly, disassembly and cleaning:

- There are no walking distances, as more consumables are already available directly at the workspace
- There is a better overview of the available work equipment, because you can immediately tell from a visual inspection whether work equipment, consumables or glassware are missing or need to be reordered
- Search times are also reduced thanks to the clear arrangement in the SmartRack®
- By hanging the laboratory glassware, the work equipment and the laboratory accessories in the SmartRack®, the work surface is freed up. This can save a lot of time when cleaning the workstation.

Increasing the efficiency of the test execution using the example of column chromatography:

- A chromatography column is installed in a SmartRack® with 2 chromatography column holders.
- In addition, numerous round flasks of the NS29 type are hanging in the same SmartRack®.
- With the round flasks, the fractions separated in the column are collected, while the flasks can be removed and hung up with one hand, without the flow of the column having to be interrupted when changing the flasks.
- The round flasks are secured in the SmartRack® in a way which prevents them from tipping over, and one after the other in a way which prevents them from being confused, and are safely stored temporarily.



Modern laboratory environment: The SmartRack® together with digital and electronic laboratory equipment and work equipment

Increasing efficiency using the example of the standardisation of test setups:

- A test can be set up in a standardised way in the SmartRack® and can therefore be repeated under comparable conditions.
- Guidelines for the optimal test setup can thus be specified by the laboratory manager and the occupational safety officer and safely adhered to during the test execution.
- Error-prone individual solutions in the test setup are eliminated and the risks of a failed test are greatly reduced
- Once developed, standardised test setups for a laboratory can be replicated, which saves time, since the knowledge required for optimal implementation can be recorded in a defined form and communicated on.

Example of the safe handling of pipettes and pipette tip boxes in a sterile workbench:

- Pipettes and pipette tip boxes are hanging in a SmartRack® mini.
- Due to the hanging storage, the work surface can be kept constantly sterile.
- If the pipette is stored hanging, its tip cannot be contaminated by it being put down.
- In the event of an accident, the work equipment and samples are hanging „on top“ in the SmartRack® mini and are not contaminated „at the bottom“ on the work surface.

This significantly increases the productive working time per laboratory employee and per laboratory workstation. Multiple burdens, such as those caused by the handling of unstructured vessels which have been set aside, are also eliminated. **This leads to an increase in efficiency of the laboratory staff of up to 10%.**

For the first time, lean management and quality management systems such as 5S can be implemented and applied concretely in the laboratory environment with the SmartRack®: The SmartRack® makes it possible to achieve and secure increased process quality with increased efficiency and improved productivity at lower costs in the long term. The SmartRack® guarantees more order and cleanliness at the workstation and changes behaviour at the laboratory workstation.

ROI via increased efficiency per laboratory employee per year

Labour costs per laboratory employee per month ¹	€ 3.511
plus non-wage labour costs, approx. 20%	+ € 702
wage costs incl. non-wage labour costs per month	= € 4.213

Increase in efficiency per employee 10%
 € 4.213 € x 10% results in about € 421 per month, this amounts to € 5,052 p.a. per year

Increase in efficiency per laboratory employee per year of 5.052 €

1: Laboratory employees in Germany receive an average monthly salary of € 3,511. Of course, significantly higher salaries are also possible and not uncommon. As of: January 2023. Source: www.gehalt.de/einkommen/suche/labor-mitarbeiter



Conclusion: The SmartRack® increases the efficiency of the laboratory staff and already pays back its investment costs in the first year of use.



Photo: Building of the Better Basics Laborbedarf GmbH in Dresden



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Dr. Marcus Heinze

Marcus Heinze was born in Zittau and is now a shareholder and head of development at Better Basics Laborbedarf GmbH. He completed his studies in polymer chemistry at the TU Dresden with a doctorate in the field of mineralisable hydrogels.

Today, he is responsible for development at Better Basics Laborbedarf. There, the possibilities of various 3D printing processes are combined with those of classic metal processing for optimal component design.

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YOU ARE INTERESTED IN OUR PRODUCTS OR YOU HAVE FURTHER QUESTIONS?

Get in touch with us:
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You can also find more information and news about our product innovations at
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Our request to you

A product like our SmartRack® is only as good as its users. With our roots in the Leibniz Institute for Polymer Research Dresden, our company Better Basics Laborbedarf stands for the tradition of "Made in Germany" quality. We feel in multiple aspects committed to this quality label for German companies, which stands for high innovative strength. Even beyond our product catalog, the same applies for us at Better Basics: Just contact us if you have ideas for extensions or improvements or if you notice something in your daily laboratory routine that we should optimize right away.

We want to create the best possible working environment for you in the laboratory and we are grateful for any comments and inspiration. We can jointly shape the future of laboratory work by cooperating with scientists and researchers. Just like you, we're always looking for a way to make our world a little better every day.

Impress:

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