



# Technical Audit – When did your machine last have a health check?



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## Systematic process analysis

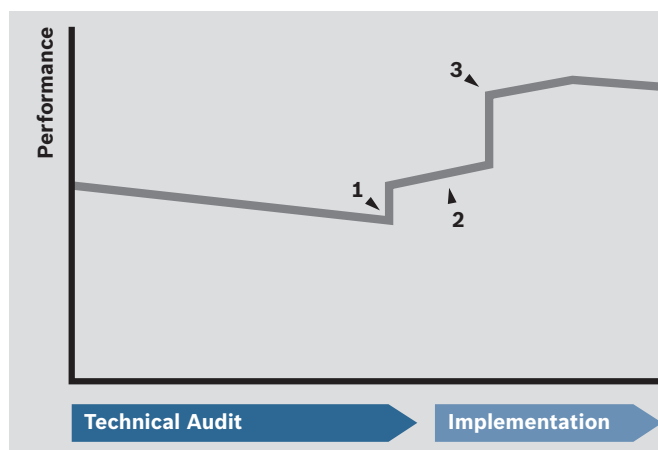
The Technical Audit enables us to highlight potential improvement areas in the production process to our customer. The audit will analyze a machine, or lines, during production in order to identify technical and organizational stoppers. It will provide a periodic health check and performance assessment for your equipment.

Using special software, which utilizes data logging of the production process, assumptions for stoppers are replaced by facts. The live data, in conjunction with the knowledge of the interdisciplinary audit team, enables a detailed and deep understanding of the actual performance and potential risks. Our Technical Audit is therefore the ideal way to reveal stoppers in your production process and to develop possibilities for optimization. By

### Your Benefits

- ▶ Structured process analysis
- ▶ Independent view based on live data
- ▶ Audit reports documenting technical and organizational stoppers
- ▶ Suggestions for improvement based on ROI
- ▶ Interdisciplinary audit team with expert knowledge

improving your packaging processes, you can simultaneously lower costs and improve efficiency. At the end of the Technical Audit, a report is issued, which presents coordinated measures and an action plan for improvement, with estimated costs, which will allow the customer to calculate the ROI.



### 3 steps to success

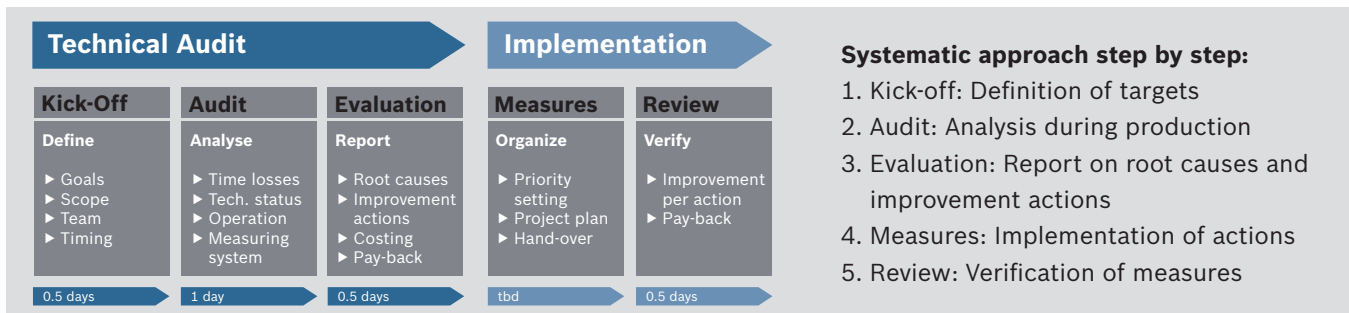
1. Implementation of quick wins after completion of Technical Audit
2. Equipment tuning, based on knowledge gained in the audit
3. Efficiency improvements through implementing the organizational and technical measures shown in the detailed audit report.

You will find your local partner at: [www.boschpackagingservices.com](http://www.boschpackagingservices.com)

# Implement fact based changes



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## Kick off

In a half day kick-off meeting with the customer, the scope and goals, as well as the necessary resources, are developed for the joint project. Key consideration is given to the number of modules with the identification of all probable or possible stoppers. To ensure a customized solution, these aspects need to be documented precisely by a specialist team, which consists of the customer's machine experts as well as Bosch professionals. For the successful implementation of an audit, it is vital for there to be a constant and open dialogue between the team members. Usually, the scope of the project focuses on the technical efficiency of the machine, on maintenance and operations, on the sources for stoppers and the duration of the stoppers. Based on this analysis, priorities are then defined by the team. The outcome of this stage is a detailed project plan, which includes the schedule and the timing of the Technical Audit. The Kick-off is usually held as a workshop at the customer's premises.

## Audit

After the determination of targets, the line will be analyzed during production in order to identify technical and organizational stoppers. Stoppers are measured systematically by a specially developed software tool. This is followed by a technical examination of the mechanics and electrics. If necessary, special software allows documentation on the stoppers to be supported by the use of pictures and videos. The analysis takes place during a predefined period of time, depending on your production schedule and product specifics. The timing of the audit is very important due to the fact that the measuring is heavily influenced by the environment.

To get a holistic view of your production processes it may be necessary to perform an analysis on more than one run. All collected data will then be summarized in an audit report. As a result, the customer will receive a detailed report on the number of stoppers and the resulting downtime. Total efficiency is calculated and is based on both the technical and organizational efficiency.

## Evaluation

Based on the audit report, Bosch creates a quotation, with coordinated measures for improvement and a comparison of cost and expected use. This report is presented in a joint half a day workshop with the interdisciplinary audit team and the customer's management.

## Measures and Review

Based on the action plan and the respective priorities of the customer, the action plan is transferred into a project plan. Machinery will be upgraded and operators trained to accomplish the proposed measures. Before project completion, all proposed and completed actions will be reviewed and compared to the planned ROI.

Please contact your Bosch Packaging Services representative for further information.

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