

DIGITAL. MOBILE. TRANSPARENT.

BOMAP - YOUR SMART HELPER ON CONSTRUCTION SITES.



MILLIONS OF KILOMETRES BEAR OUR SIGNATURE.

Whoever constructs roads, shapes landscapes, or carries out other earthwork projects can rely on BOMAG's unique expertise. For over 60 years, our name has stood for powerful, reliable machines – and for a good part of road construction history.

We are drivers of innovation and always think far ahead. Our new BOMAP app makes your compaction control on earthwork and asphalt construction sites smart, digital, and more efficient. The app uses GPS to document roller passes, and draws an intuitively readable map of compaction progress. In real time. The driver knows exactly what needs to be done and where. The work result is available as a PDF file and provides full transparency. BOMAP runs on all standard Android tablets and smartphones, and is compatible with rollers from all manufacturers. When used with BOMAG rollers, the app collects additional readings for Continuous Compaction Control (CCC).

We owe our power of innovation to more than 2,500 committed employees worldwide.

A source of expertise that has made us the global market leader in this sector. The foundation for this is our unconditional commitment to quality: in product development and production, in the qualification of our employees, and in service that guarantees optimal on-site support.





DIGITAL ALL THE WAY.

BOMAG machines are on the road to success worldwide. Asphalt roads stretching as far as the horizon are proof of our expertise. We are drivers of innovation and always think far ahead. We develop pioneering software to complement our machines. We are bringing the advantages of digitisation to you. Here and now.

The advantages offered by digitisation include greater efficiency and quality, measurability and comparability, reliability and transparency, and a significantly reduced workload on the entire construction site. We pack all this and more into digital BOMAG products to simplify your everyday work on the construction site. We pass on our knowhow: thanks to our many years of practical experience, we understand exactly what you need in your daily work, and apply our knowhow to the development of digital solutions.

To make it as easy as possible for you to perform great work and succeed, we dispense with exclusivity. We have deliberately made our digital BOMAG solutions compatible with products from other manufacturers. We offer an open interface that can be integrated into any machine in your fleet, regardless of the make. Because it is important to us that your construction site runs seamlessly.

BOMAP: SMART COMPACTION CONTROL.

We have developed BOMAP for maximum benefit with the simplest operation. The app works on regular Android smartphones and tablets without the need for special hardware. BOMAP is immediately ready for use on all earthwork and asphalt construction sites worldwide, increasing efficiency and ensuring the best results. Including comprehensive documentation from A to Z. BOMAP impresses with many useful functions that are easy and intuitive to use. No training is required. BOMAP is perfectly compatible with BOMAG JOBLINK and BOMAG AsphaltPro. Together they make a perfect team for the seamless digital construction site, and guarantee maximum efficiency. BOMAG AsphaltPro allows you to control your asphalt job site digitally. Intelligent networking means that the entire construction site data is available at all times. During the paving process, the app constantly compares target specifications from planning with the current site data. All in real time. Everything under control.

DIGITAL. MOBILE. TRANSPARENT.

19

ADDED VALUE AT NO COST: FREE APP.

- Download the app for free in the Google Play Store.
- Installable on Android tablet / smartphone.Plug and play.
- GPS positioning via tablet / smartphone.
- No expensive special hardware required.

2

COMPREHENSIVE FUNCTIONS: PIONEERINGLY INTUITIVE.

- The app draws a compaction map of the construction site. Progress is visible in real time.
- Easy, intuitive operation. No training required.
- Colour scale reliably shows what needs to be done and where.
- PDF documentation after work completion.



ALL PROCESS DATA LIVE: WITH BOMAG JOBLINK.

JOBLINK digital interface feeds machine measurement data into BOMAP. Display e.g. $E_{_{VIB}}$, temperature etc. App automatically takes over machine configuration.



QUALITY: PLANNING AND DOCUMENTATION.

Parallel planning of different projects in BOMAP via BOMAP Connect.

1. 10

- Projects can be synchronised and relevant data exchanged.
- Full synchronisation with BOMAG AsphaltPro possible.
- Intuitive tools for reporting and data evaluation.
- Interface to BIM and process tools.

GREATER EFFICIENCY: FEWER PASSES.

- Fewer passes required.
- Reduced working time, fuel, wear, CO₂.
- Stress-free and flexible working on the job site.
- Better on-site time management.

COMPATIBLE: WITH MACHINES FROM ANY MANUFACTURERS.

5

BOMAP can be used on all compaction equipment.

Л

- BOMAG tablet holder and GPS antenna fit all machines.
- Ideal interaction between BOMAP and JOBLINK for measurements such as E_{VIR}, ECONOMIZER etc.

ADDED VALUE AT NO COST!

Great benefits, no costs. We have developed BOMAP as a free app with maximum compatibility. The app is available free of charge in the Google Play Store. BOMAP runs on all regular Android tablets and smartphones, so no special hardware is required. The system requirement is Android 7.0 or higher.

For best performance, we recommend a screen diagonal of at least 9 inches and a mobile phone connection. BOMAP uses the mobile device's internal GPS to detect the position of the construction machine on earthwork or asphalt construction sites. The app is immediately ready for use after installation. Once all parameters have been set, the app runs throughout the entire construction process. When the app is started, BOMAP automatically documents compaction output without the driver having to make any further settings. It is immediately apparent where optimum compaction has been achieved or whether further passes are necessary.

READY. DOWNLOAD. GO!

Download BOMAP here via QR code, install it, and off you go.





COMPREHENSIVE FUNCTIONS, PIONEERINGLY INTUITIVE.

A clear overview. BOMAP makes Continuous Compaction Control (CCC) transparent at every work step. To do so, the app takes over all useful functions from A to Z. At the same time, the user interface has a ground-breakingly intuitive design and can be operated without training.

- BOMAP displays live maps of the construction site. A colour scale marks the compaction progress in real time and gives the driver clear instructions on what needs to be done and where:
 - 1. Start measurement.
 - 2. Pass over green and red areas.
 - 3. The target has been reached once the area turns blue.
 - 4. Terminate measurement. Done!
- BOMAP can be configured to meet the requirements of earthwork and asphalt paving. The colour scale display can be adapted to any construction site.
- The number of passes and other values such as E_{VIB}, the degree of compaction via ECONOMIZER and/or temperature etc. can be displayed. The colour scale display can be set to any of these values.
- With BOMAG JOBLINK, it is possible to differentiate between static, dynamic, grit spreader or rubber wheel passes at any time.

- POI management records measuring points or damaged areas, and offers an optional image and note.
- Dark mode provides support in poor visibility conditions, e.g. at night.
- The integrated project management allows you to create and save any number of projects.
- Regardless of whether a PDF file, a statistical evaluation or an overall construction report is required

 the right documentation can be generated for every requirement.
- Fleet networking allows you to control all the compaction equipment on all your job sites in a simple, clearly structured interface.
- The projects are stored in BOMAP Connect and can also be archived there. They can consequently be viewed at any time by all involved.
- With BOMAP Connect, highly qualified analysis and/ or further processing of the results in your own IT systems is possible.



GREATER PRECISION WITH THE BOMAP ANTENNA.

We enable the highest possible precision – with our BOMAP Antenna and the optional correction service. The first good results with BOMAP can be obtained via the mobile device's GPS. This lets you gain experience with the system and record and document small projects.

With the BOMAP antenna, the documentation and map display of the compaction process become far more precise. It achieves GPS positioning with an accuracy of up to 20 cm. This guarantees exact results on all earthwork and asphalt paving sites, and in poor visibility and weather conditions. Even on complex and inner-city job sites where space is at a premium, you receive highly accurate compaction results and documentation. For maximum precision, the antenna can be equipped with our correction service. This provides accuracy in the single-digit centimetre range, down to < 5 cm.

The antenna is simple to use. It connects to BOMAP via Bluetooth. A cable is only required for the power supply.

The antenna can be mounted flexibly on the machine with a magnetic base. For all other makes, the BOMAP antenna is supplied with a universal wiring loom.



TABLET ALWAYS SECURELYFIXED AND IN VIEW.

When machines are on the move on job sites, the tablet needs to be well secured. The BOMAG tablet holder guarantees stable and flexible mounting. This allows operators to set up the tablet individually and optimally for their field of vision – in any machine, whether from BOMAG or any other manufacturer.

Because BOMAP is used in different machines, BOMAG's tablet holder offers a variety of mounting options. The tablet holder can be fixed in the cabin with a screw connection or the 3-point suction pad provided.

In machines with ROPS / FOPS, the tablet holder is attached with a specially developed bracket – simply but effectively. A special BOMAG holder is also available for mounting on light tandem rollers. The holder fits all makes of tablet and display sizes from 9 to 10 inches.



GREATER EFFICIENCY WITH FEWER PASSES.

Optimum results with maximum efficiency and substantial savings. That's what BOMAP delivers.

Thanks to continuous documentation and visualisation, drivers never makes one pass too many or too few. This saves fuel and working time. Machine wear is reduced. At the same time, BOMAP reassures operators that they are consistently achieving excellent quality, and optimises time management across the site. The environment also benefits from BOMAP: fewer passes mean lower CO_2 emissions.





FULL POTENTIAL WITH BOMAG JOBLINK BLUETOOTH.

Exclusively from BOMAG: the most comprehensive digital surface covering compaction control on the market. With JOBLINK the unbeatable potential of BOMAP comes into play.

BOMAG machines are equipped with intelligent measuring technology. The BOMAG JOBLINK interface picks up all process-relevant readings and makes them available in BOMAP: E_{VIB} , frequency, amplitude, temperature (for asphalt rollers), travel speed, direction of travel, and number of passes. Even machines with ECONOMIZER can provide their compaction information.

A connection to BOMAP is automatically initiated when the machine is started. As soon as the wireless connection via the JOBLINK plug-and-play Bluetooth adapter is established, BOMAP independently takes over the machine configuration; drum width, linear load and weight. All the measuring data appears in the app automatically – without the need for additional equipment. An additional JOBLINK Dashboard serves as a visual aid. As a consequence, the relevant measured values can be displayed in the driver's field of vision at any time without losing sight of the lane.

The final documentation contains all the measuring data sent to BOMAP via JOBLINK. Regardless of whether it concerns soil compaction or asphalt paving, you now have the ability to meet any future tender requirements such as Continuous Compaction Control (CCC).

NETWORKED FLEET.

With BOMAP, the entire earth and asphalt construction fleet works as a team. BOMAP is the only system on the market that can network all compaction machines on a construction site in real time. BOMAP shows your site managers and every driver on the job the current compaction status of the entire site and the current positions of the other machines.

All parties involved therefore have a constant overview of all relevant parameters. These are the ideal conditions for perfect teamwork. If things do not run smoothly, the site management is able to recognize this at once and react directly.

We deliberately kept this fleet networking capability in BOMAP compatible. As a result, you can network compaction equipment from any manufacturer, not just BOMAG machines. Even mixed fleets can be controlled jointly without any problems. For reasons of speed and unimpeded data flow, an intelligent algorithm reduces the amount of data to be transferred to a minimum. To guard against data loss, all data is temporarily stored and retrieved in the event of a connection failure.

BOMAP works via mobile radio, no local WLAN components are required. So you are immediately ready to go.

By integrating BOMAP into BOMAG AsphaltPro, you achieve a fully digital construction site. With AsphaltPro, you control all processes in real time, from the initial planning to the fully compacted road – welcome to the networked construction site 4.0.

BOMAG ASPHALTPRO – NETWORKED CONSTRUCTION SITE 4.0.

The app for digital process optimisation and planning on your construction site.

- Automatic provision of complete planning with scheduling.
- Digital control of all processes in real time.
- Comprehensive, qualified documentation, analyses, optimisations.

MORE STORAGE, MORE FUNCTIONS WITH BOMAP CONNECT.

BOMAP Connect creates the perfect conditions for the parallel planning of different projects in BOMAP including simple site and resource planning. With the help of 3D planning data and up-to-date information from online map services, it is possible to specify all relevant core parameters for the site and to plan the construction process in detail. The respective job areas are defined, the compaction specifications are set according to the task (number of passes or soil compaction value), and the machines to be deployed are selected. Personnel and machines can then be assigned to the various projects. The final project assignment is subsequently transmitted to the tablets of the roller drivers, supervisor and site manager at the push of a button.

Should changes or fine adjustments to the project planning become necessary during the construction process, this poses no problem. The new default values can be easily adjusted and transferred to all involved at the touch of a button – in real time. That way, everyone is in the picture at all times. The system converts local coordinate systems. Target values, POIs and measurements can be viewed, edited and saved directly. The user administration allows you to create individual role and rights profiles for different user groups. You can either use standard role profiles e.g. site manager, supervisor, roller driver or define your own roles that apply to your company. Users only see the information relevant to them. All new information and changes to the project plan are transmitted in real time. So everyone is always up to date. The data from all machines comes together in the project on BOMAP Connect. This enables you to keep track of the progress of all construction projects worldwide at any time, no matter if you are on the road or in the site office, and to react immediately to changing situations.

Once a project has been completed and evaluated, it can be conveniently archived to save storage space and increase transparency. Archived projects can, of course, be retrieved and viewed again at any time. The next step to a paperless office.





QUALIFIED DOCUMENTATION.

The quality requirements on construction sites are increasing. Tenders and regulations require complete documentation. BOMAP takes care of all this for you.

With BOMAP, you have several options to reliably document your asphalt or soil compaction work.

The free app alone offers full compaction verification. The number of passes is recorded and exported as a PDF file.

02

BOMAG machines equipped with JOBLINK make it possible to provide complete quality verification for surface covering dynamic compaction control. With BOMAP Connect, you can document the results for the entire construction site with all the machines involved. All the data can be evaluated in many ways depending on individual requirements. You can collect statistics and generate your own reports that go far beyond the currently required regulations.

You can also set up different rights profiles that allow for differentiated documentation processing in accordance with user authorisations. For example, quality inspectors or clients can perform evaluations independently on the basis of a specific role profile.

BOMAP in combination with BOMAG AsphaltPro is our all-round carefree package: with a full job description and quality documentation.

BOMAP.

YOUR SMART HELPER ON CONSTRUCTION SITES.

- Free app download.
- Simple and convenient operation.
- Live compaction values and progress.
- For all compaction machines and manufacturers.
- Immediate improvement in quality.
- Reduced consumption, wear, and CO₂.
- Navigation for the roller driver.

- Networked, mixed construction site.
- Full digital compaction verification.
- Tracking of all job sites at any time in real time.
- BIM compatible.

- ✓ Fulfil tenders.
- ✓ Provide quality certification.

BOMAG

- ✔ Minimise risks.
- ✓ Keep track of all job sites.

> BOMAG

(2)

G



DATA PROVISION VIA BOMAP CONNECT.

Straightforward data transfer from one system to another. If required, BOMAP integrates seamlessly into your IT infrastructure. BOMAP offers a wide variety of interfaces to further processing programs. Regardless of whether you plan to use the generated 3D models as a basis for planning, utilise the collected data for BIM, manage the reports in your own archive system or for any other purpose.

BOMAP Connect already fully supports common standards such as VETA. Always in the latest version.

We maintain an extensive real-time interface to our road construction control centre, BOMAG AsphaltPro. This enables you to fully plan, execute, and document your construction projects in real time. You can map everything from the initial idea to pre-measurement of the site, dimensioning, logistics and cycle planning through to perfect implementation. You are kept up to date on construction progress at all times and can intervene if necessary. In this way, all the relevant information on the digital delivery note is digitally linked to the paving parameters (such as thermography, layer thickness, temperature, compaction parameters) for every square centimetre of the construction site, and then stored. For the most comprehensive quality documentation ever. BOMAP and AsphaltPro are the perfect duo for road construction.



OUR SOLUTIONS WORK HAND IN HAND – FULLY DIGITALLY.

Our machines with intelligent measuring technology are the prerequisite for digitising the construction site. To achieve this comprehensive transparency, BOMAG has combined a whole range of modules into an integrated solution. Our products work hand in hand – fully digitally.

With BOMAG TELEMATIC, you are always 100% up to date – in real time, comprehensively and globally. All of your machinery fleet activities are fully transparent. This offers you considerable advantages in fleet management when it comes to resource planning, service and safety.

All important machine information as well as productivity data can be recorded via our JOBLINK interface. As a team, JOBLINK and BOMAP provide the highest level of quality assurance and qualified records.

BOMAP, your smart helper on the construction site, is the new, self-explanatory mobile solution that allows you to document your work results on the job in real time. BOMAP Connect links the machines together to create a complete compaction map of the construction site – across all machines, even from different manufacturers. AsphaltPro, the third element of digital networking, can be linked to BOMAP data. This allows you to see at any time and at any position on the site which material has been placed where with which batch, which roller has compacted it as well as its temperature and the measuring values achieved. The result is a transparent construction site.

Thanks to this unique link, BOMAG is the only company that can map and document everything from planning to the finished compacted asphalt in real time.

The right machine, with the right personnel, on the right construction site at the right time – BOMAG TELEMATIC and BOMAG Resource Manager ensure this.

The bottom line is: an end to the many planning tables and lists of different planning managers who all access the same resources. Thanks to BOMAG Resource Manager, the effort is kept to a minimum. All resources at multiple construction sites can be managed simultaneously with ease. This makes resource planning as flexible as required in practice.



OUR GOOD REPUTATION AND DIGITAL SOLUTIONS PAVE THE WAY.

Quality quickly becomes evident. All over the globe. That's why BOMAG machines are deployed throughout the world. When building a motorway from Beijing to Inner Mongolia, for example, or an airport in Istanbul, or on construction sites in Germany.

The picture shows the airport construction in Istanbul – with an area of 76.5 million m^2 and 400 million m^3 landfill and compaction – a gigantic construction site. The soil compaction at the start of construction work was carried out with BOMAG machines. A fleet of BW 226 and BW 216 heavy single drum rollers with padfoot and polygonal drum rollers was deployed. A total of 136 machines, 61 of which were equipped with BOMAG Terrameter (BTM), and 45 with BOMAG Compaction Management 05 (BCM 05) with GPS, were used for compaction control.

We are proud of the fact that machines and digital solutions, as only we make and develop them, are trusted by companies all over the world.

www.bomag.com

Head Office: BOMAG Hellerwald 56154 Boppard GERMANY Tel. +49 6742 100-0 Fax +49 6742 3090 info@bomag.com

BOMAG Maschinen-

handelsgesellschaft m.b.H. Klausenweg 654 2534 Alland AUSTRIA Tel. +43 2258 20202 Fax +43 2258 20202-20 austria@bomag.com

BOMAG MARINI EQUIPAMENTOS LTDA.

Avenida Clemente Cifali, 530 Distrito Industrial Ritter Cachoeirinha – RS BRAZIL ZIP code 94935-225 Tel. +55 51 2125-6642 Fax +55 51 3470-6220 brasil@bomag.com

BOMAG (CANADA), INC.

2233 Argentia Road, East Tower Suites 302 Mississauga, ON, Canada L5N 2X7 Tel. +1 800 782 6624 Fax +1 905 361 9962 canada@bomag.com

BOMAG (CHINA)

Compaction Machinery Co. Ltd. No. 2808 West Huancheng Road Shanghai Comprehensive Industrial Zone (Fengxian) Shanghai 201401 CHINA Tel. +86 21 33655566 Fax +86 21 33655508 china@bomag.com

BOMAG India Pvt Ltd

Unit No. 614, B Wing, 6th Floor Kanakia Wall Street Chakala Andheri Kurla Road Andheri East Mumbai 400 093 Maharashtra INDIA india@bomag.com

BOMAG France S.A.S.

2, Avenue du Général de Gaulle 91170 Viry-Châtillon FRANCE Tel. +33 1 69578600 Fax +33 1 69962660 france@bomag.com

BOMAG (GREAT BRITAIN), LTD.

Sheldon Way Larkfield, Aylesford Kent ME20 6SE GREAT BRITAIN Tel. +44 1622 716611 Fax +44 1622 710233 gb@bomag.com

BOMAG Italia Srl.

Via Roma 50 48011 Alfonsine ITALY Tel. +39 0544 864235 Fax +39 0544 864367 italy@bomag.com

FAYAT BOMAG Polska Sp. z o.o.

UI. Szyszkowa 52 02-285 Warszawa POLAND Tel. +48 22 482 04 00 Fax +48 22 482 04 01 poland@bomag.com

FAYAT BOMAG RUS 000

141400, RF, Moscow region Khimki, Klayazma block, h. 1-g RUSSIA Tel. +7 (495) 287 92 90 Fax +7 (495) 287 92 91 russia@bomag.com

BOMAG GmbH

300 Beach Road The Concourse, #18-06 Singapore 199555 SINGAPORE Tel. +65 6 294 1277 Fax +65 6 294 1377 singapore@bomag.com

BOMAG Americas, Inc.

125 Blue Granite Parkway Ridgeway SC 29130 U.S.A. Tel. +1 803 3370700 Fax +1 803 3370800 usa@bomag.com

02/20 PRE 112 347

