EPAL Euro pallet QR FAQs

What is the EPAL Euro pallet QR?

The EPAL Euro pallet QR is a further development of the internationally successful EPAL Euro pallet and is marked on the right-hand corner blocks with an individual QR code. Each EPAL Euro pallet QR therefore has its own QR code which is not used on any other EPAL Euro pallet QR.

What are the benefits of the EPAL Euro pallet QR in goods logistics operations?

The individual QR code allows the location of the pallet to be identified in the supply chain as well as in intralogistics (Track&Trace). The EPAL Euro pallet QR's individual QR code also allows the user to link the pallet and the goods it carries or transports, improving the transparency of supply chains. Users of EPAL Euro pallets QR can trace the flow of their goods down to the unit level thanks to the unique serial number. Full pallets can therefore be easily and quickly booked in at Goods Inwards by scanning the QR code on the EPAL Euro pallet QR.

What are the benefits of the EPAL Euro pallet QR for pallet logistics and pallet management?

EPAL Euro pallet QR users can easily capture and use important data on storage time, pallet rotation, use and pallet locations. This improves the transparency of the company's internal pallet management and ensures the availability of the correct number of EPAL Euro pallets at the correct location and time.

What benefits does the QR code offer in terms of pallet exchange?

The EPAL Euro pallet QR facilitates easy, digital pallet exchange. The data required for pallet exchange can be digitally imported by scanning the QR code and verified by both parties to the exchange. This removes the necessity for pallet labels and avoids the incorrect transfer of data from the labels into IT systems. Administrative costs are therefore reduced at the same time as increasing efficiency and transparency.

How do you link the QR code on the new EPAL Euro pallet QR with the goods?

Users can link the QR code to the goods on the pallet through their own IT systems or through software developed by EPAL and gain complete transparency of the location the EPAL Euro pallet QR and the goods transported on it using Track&Trace.

How can companies use the EPAL Euro pallet QR to track & trace their goods?

The goods are linked to the EPAL Euro pallet QR through the software. The location of the goods and the pallet in the supply chain can then be traced by scanning the QR code either automatically or manually. Losses and incorrect deliveries of pallets and goods can therefore be avoided. The EPAL Euro pallet QR allows goods and pallets to be tracked from the sender to the recipient in near real time.

Can companies link the QR code to their own IT systems?

The QR code on the EPAL Euro pallet QR can be read by almost any barcode scanner used in logistics and any smart phone. The QR code and the serial number it contains can also be used by companies' own IT systems, for example, in Warehouse Management Systems (WMS) or Enterprise Resource Planning (ERP) systems. The data such as the current location of the EPAL Euro pallet QR, the empty/full status of the pallet, or other parameters are sent directly to the relevant internal IT system through a simple scan and an API interface.

Can companies also enjoy the benefits of the EPAL Euro pallet QR even if they do not have their own ERP system?

Yes. EPAL will soon be offering software in the form of a progressive web app (PWA) which will provide access to all the essential functions of the QR code on the new EPAL Euro pallet QR. The web app will allow users to capture information on the incoming and outgoing EPAL Euro pallets QR. A company can therefore manage its pallet stocks and make use of basic Track&Trace by scanning the EPAL Euro pallet QR.

Does it make sense to also provide the new EPAL Euro pallet QR with a label?

Time-consuming labelling of pallets with paper or plastic labels is now a thing of the past. All functions previously carried out by standard paper or plastic labels are now replaced by the QR code on the new EPAL Euro pallet QR. This saves time and money and protects the environment.

Can the EPAL Euro pallet QR be freely exchanged?

EPAL Euro pallets QR are fully exchangeable in the open EPAL pallet pool. The provisions of EPAL's Terms of Exchange shall apply. Therefore, the new EPAL Euro pallet QR can be exchanged in the open exchange pool which comprises over 650 million EPAL Euro pallets.

How will EPAL Euro pallets QR be sorted in future?
EPAL Euro pallets QR and EPAL Euro pallets can be freely exchanged in the open EPAL pallet pool. However, it can be assumed that, in future, EPAL Euro pallets QR will be managed as a sub-group of EPAL Euro pallets in exchange accounts in addition to differentiating between pallets according to the EPAL Quality Classification.

How long will the QR code last on the new EPAL Euro pallets QR?
The QR code marking is inkjet-printed onto EPAL Euro pallets. EPAL first introduced inkjet printing in 2019. Weathering and endurance tests conducted in the meantime have not had a negative impact on the legibility of the QR code. EPAL expects the QR code to remain legible for several years, depending on actual usage. To retain good legibility of the QR code on used EPAL Euro pallets QR, EPAL recommends storing the EPAL Euro pallets QR indoors or under a roof if outdoors.

Where can EPAL Euro pallets QR be bought from?
New EPAL Euro pallets QR are supplied by EPAL licensees who also produce classic EPAL Euro pallets. At this moment in time, only a few producers are involved but many EPAL Euro pallet producers are currently setting up QR code printing. EPAL Euro pallets QR will soon be available everywhere. Information on producers and suppliers is available on the EPAL website (via the licensee search).

How much does the new EPAL Euro pallet QR cost?
EPAL does not get involved in setting the price of EPAL pallets. Please contact your licensed EPAL producer for pricing information for the new EPAL Euro pallet QR.

Is the new EPAL Euro pallet QR more expensive than the classic EPAL Euro pallet?
As printing unique QR codes on EPAL Euro pallets implies continuous investment in IT and inkjet printing for the producers, it must be assumed that EPAL Euro pallets QR will be somewhat more expensive than classic EPAL Euro pallets. However, the savings in terms of goods and pallet logistics provided by the positive impact of the EPAL Euro pallet QR will certainly be greater than the slight price uplift.

How will EPAL Euro pallets QR be produced?
The EPAL Euro pallet QR is produced by companies which are licensed by EPAL to produce classic EPAL Euro pallets. These companies have added a printing station to their EPAL Euro pallet production facilities which is connected to EPAL's IT system. The QR codes generated by EPAL are then imported directly into the printing process.

How will EPAL Euro pallets QR be marked with a QR code?
The QR code and other markings on the EPAL Euro pallets QR are produced by inkjet printers. EPAL has developed various innovative solutions with all the leading providers of inkjet printing systems in the approximately three years of the project which allow unique QR codes to be printed and ensure the QR codes remain legible for a long time.

Is the ink used for printing the QR codes environmentally-friendly and compatible with the transported goods?
The manufacturers of inkjet printing systems have worked with EPAL to further develop the process for marking EPAL pallets using inkjet printers. Only printing systems and inks approved by EPAL may be used. An essential condition for this approval, in addition to the quality and durability of the printed image is also the fact that the ink does no harm to the environment or to the health of people and animals, and is safe to use with the transported goods. Also, in terms of recycling, the ink must not have a detrimental effect on the quality of the material for recycling. All these requirements are met by the inkjet printing systems used to print the QR codes.

Will all new EPAL Euro pallets have a QR code from now on?
No. Printing QR codes on EPAL Euro pallets is currently an option. There is no obligation for EPAL Euro pallet producers to print QR codes on EPAL Euro pallets. However, EPAL is convinced that, due to the high level of

interest from users, the new EPAL Euro pallet QR will soon establish itself and, in time, will become the new standard.

Can the QR code be repaired if it is no longer legible?
Yes. It is of course possible that the block or the QR code on the block will be damaged when EPAL Euro pallets QR are used in various logistics processes. In these cases, the QR code can be refreshed by a repair operation approved by EPAL. In future, checking the legibility of the QR code and refreshing it will be part of the repair process for EPAL Euro pallets QR.

Will used EPAL Euro pallets be retrospectively marked with a QR code?
There are no plans to retrospectively mark all used EPAL Euro pallets with a QR code. There will also be no obligation in the near future to mark EPAL Euro pallets with a QR code as part of the repair process.

Can companies also have their used EPAL Euro pallets marked with a QR code?
This is possible. The owners of the used EPAL Euro pallets are free to decide whether they wish to upgrade their pallets by marking them with a QR code. In future, EPAL repair operations approved by EPAL will be able not only to refresh defective QR codes but also to mark used EPAL Euro pallets with a QR code for the first time. Companies which wish to mark their used EPAL Euro pallets with a QR code should contact EPAL or make direct contact with an approved EPAL repair operation.

What are the benefits of the EPAL Euro pallet QR in terms of using artificial intelligence in logistics?
Artificial Intelligence (AI) processes data in such a way that it is possible to automate decisions and predictions in current processes. Companies can collect data about their logistics processes by using EPAL Euro pallets QR which can then be used in AI-supported processes. For example, the stock of EPAL Euro pallets at various production and storage locations can be automatically predicted. The use of AI-supported processes as part of pallet logistics and pallet management is under continuous investigation in the EPAL Innovation Lab.

How large is the EPAL QR code?
The QR code is 50 mm x 50 mm. The position and size of the QR code have been selected such that the QR code can be recognised and read even from a distance of several metres. At the same time, the position of the QR code minimises the risk of damage around both the fork entry points and the push and rotation points on the EPAL Euro pallets QR during the logistics processes.

What are the components of a QR code marking?
The marking consists of the EPAL QR code and a 9-digit serial number in plain text. The serial number is located to the right of the actual QR code. Every pallet has a unique QR code. Marking EPAL Euro pallets with a QR code is therefore frequently referred to as EPAL Euro pallet serialisation.

How is the QR code produced?
The QR code is produced by EPAL through a software platform designed for this purpose and is automatically sent to the EPAL Euro pallet QR producer's production process. This ensures that each QR code is issued only once and EPAL Euro pallets QR have an individual, unique marking.

What does the QR code contain?
The QR code contains the unique serial number for the EPAL Euro pallet QR as well as an internet address (URL). When scanned with a smart phone or other standard scanner, the internet address takes the user to an internet site, or the digital pallet passport. In future, it will also contain the EPAL Euro pallet QR's digital product passport.

What is the digital pallet passport?
The digital pallet passport contains information on the EPAL Euro pallet QR's production data. This information, together with other pallet features, proves the EPAL Euro pallet QR is genuine. If the digital pallet passport includes the term 'Genuine', the EPAL Euro pallet QR has been officially activated by EPAL. In future, the digital pallet passport will also include data on repairs completed on the EPAL Euro pallet QR.

What is the digital product passport?
The digital product passport is based on a legal regulation which is currently still at the planning stage. In future, products and packaging are to contain specific information on the materials they comprise in order to improve

recycling and make it easier. Furthermore, information on options for repair and reuse are also to be included in the digital product passport. EPAL is already preparing to implement this and will therefore offer the digital product passport well in advance of this being a legal obligation.

Do pallets have to be marked with a QR code?
There is currently no obligation to mark pallets with a QR code. However, the current drafts of the European Packaging and Packaging Waste Regulation (PPWR) are proposing that packaging must have a QR code to improve the reuse of packaging. EPAL Euro pallets QR will comply in full with the PPWR's requirements for marking packaging.

How does the EPAL Euro pallet QR improve sustainability in logistics?
The sustainability of EPAL Euro pallets is specifically based on their reuse and exchange, both of which will be improved and made easier by the EPAL Euro pallet QR. The greater transparency of location data can contribute to shortening delivery routes in pallet exchange and thus reducing the production of CO_2. Making pallet exchange easier also allows exchangeable EPAL Euro pallets to be used in areas where single-use pallets have been used so far.

How does the EPAL Euro pallet improve the sustainability of companies?
The QR code allows companies to collect data on the scope of reuse and, specifically, the number of rotations of EPAL Euro pallets QR in intralogistics or in the EPAL Euro pallet pool. Each scan contributes to better evaluation of and information on the frequency of use and helps companies to achieve their sustainability goals and to include these in their Corporate Social Responsibility (CSR) reports.

What significance does the EPAL Euro pallet QR have for the circular economy?
The open EPAL pallet pool is an exemplar for a sustainable business model, as the use and reuse of EPAL pallets and their exchange in the open EPAL pallet pool comply with the basic principles of the circular economy (reuse, repair, recycle) and thus protect the environment and the climate. The traceability of EPAL Euro pallets QR makes it easier to reuse and exchange them as key components of the circular economy, and provides important data on repair and recycling as further significant components of the Life Cycle Assessment (LSA) of EPAL Euro pallets.

What specific contribution does the EPAL Euro pallet QR make to waste avoidance?
The QR code is printed directly onto the EPAL Euro pallet QR and can be easily utilised and scanned using any reader, whether it be a smart phone or a barcode reader. It is therefore no longer necessary to attach a paper label. This reduces waste in the form of labels and adhesives, or staples, and also saves the time and costs involved in applying labels and removing the old labels.

Why not use a label for the QR code?
Compared to labels, inkjet printing on wood is more durable and therefore more economical and more reliable for the users. Paper or plastic labels are less durable, particularly when exposed to weather such as rain or temperature fluctuations (labels swell up and fall off) as well as the issues which usually occur in logistics from being scraped along other pallets when loading onto lorries or impacts from fork lifts.

Why not use an RFID transponder instead of the QR code?
A significant benefit of the QR code compared to RFID technology is the low cost of integration for the user, as no additional infrastructure, such as RFID gates or RFID readers, are required to read QR codes. The QR code can be read with an ordinary smart phone or scanners already in use in logistics. This is particularly important for the manual processes which still dominate day-to-day goods and pallets logistics in many sectors. A visible marking, such as the QR code, is therefore important. The dynamic development of automatic QR code capture by scanners and cameras on conveyor lines and fork lift trucks, or the use of drones also offer a great deal of potential for individual and innovative solutions. Not using plastic labels and RFID transponders is an important consideration in terms of environmental protection and ensures EPAL Euro pallets are easy to recycle, as they are made entirely of wood and nails.

Will RFID transponders be available in the future for EPAL Euro pallets?
EPAL has not ruled this out. It can make sense to use RFID transponders in specific logistics processes. In 2008, EPAL therefore started to investigate the use of RFID technology. In turned out that RFID transponders were required in only a small proportion of logistics processes where EPAL Euro pallets were used. It therefore did

not make sense to fit every EPAL Euro pallet with an RFID transponder for reasons of environmental protection and on-costs. Marking with a QR code is an easier and therefore better solution. However, there will also be option in the future to fit RFID transponders to EPAL Euro pallets.

Why not use active trackers or sensors instead of the QR code?

EPAL has been investigating the use of IoT trackers on EPAL Euro pallets since 2018 and, together with the Fraunhofer IML and a renowned logistics provider, completed a study in 2021 which looked into the network coverage of various wireless technologies. However, only a small proportion of the logistics processes in which EPAL Euro pallets are used require an IoT tracker or RFID transponder. To avoid plastic and on-costs, marking with printed QR codes has also turned out to be the better solution when compared to IoT trackers. EPAL is continuously investigating the latest technical developments in IoT trackers and wireless technologies in the EPAL Innovation Lab and is preparing an option to add IoT trackers and sensors to EPAL Euro pallets.