

Im Trend

Bank journal

CeBIT 2009 special edition



KEBA – the perfect partner
for self-service cash recycling

KEBA[®]

Automation by innovation.

Editorial



Dear Reader,

It is a special pleasure to be able to use this year's edition of the "Im Trend CeBIT Special" to show you why KEBA is the preferred choice when it comes to banking automation. You can gather information as to how a variety of biometric solutions can contribute to enhanced bank terminal security and read why 2009 is the "Year of the Coin."

In addition, you can learn more about KEBA's flexible customer service and how you can use our full coverage, top quality support system, which above all is tailor-made to your individual requirements.

I wish you a successful and interesting CeBIT and a pleasurable read!

Yours sincerely,

Franz Berger MBA, KEBA Banking and Service Automation Business Manager

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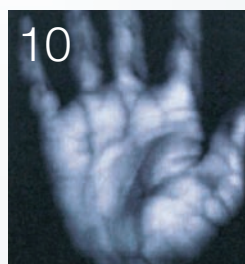
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Imprint:

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Visit us in Hanover
from March 3-8, 2009
Stand D28, Hall 17

What awaits you on the
KEBA stand at the CeBIT.

At this year's CeBIT, KEBA will be presenting its comprehensive, self-service automation range and demonstrating why its systems represent the preferred choice in the bank automation field.

Discover flexibility in all its forms!

For some 40 years, the KEBA automation specialists, who are based in Linz/Austria, have been providing innovative, top quality solutions in the banking automation segment on the basis of an extremely flexible working approach.

At the CeBIT 09, KEBA will not only be exhibiting its highly cost-efficient KePlus self-service terminals with cash cycle technology and a KePlus stand-alone coin deposit system, but also technical features such as software tools for the optimization of KePlus ATMs and three biometric solutions for increased bank terminal security.

One of the innovative self-service systems on display will be a fully equipped KePlus X6, which offers a comprehensive solution for counter-free bank branches. This system is especially suitable for extremely small branches as it covers the entire range of important cash-related functions. Moreover, the KePlus X6 is also its element in large and medium-sized banks.

At the CeBIT 09, KEBA will also be providing visitors with insights into the technical diversity of its self-service systems in the form of the KePlus BordComputer, KePlus LogViewer and KePlus ServiceInfo software tools.

Increased bank terminal security will be on show in the shape of the KePlus R6, the ATM of the future, which is equipped with KEBA's full range of safety features. Apart from EPP privacy protection, safeguards against manipulation, the CPK+ anti-skimming module and an ink dye system, the focus will be on the possibilities for video surveillance.

The topic of biometry also offers numerous approaches for greater finance sector security and for this reason, at this year's CeBIT, KEBA will be presenting three different biometric solutions:

Finger vein authentication

The finger vein authentication module from Hitachi made its debut at the CeBIT in 2006 and last year, KEBA presented a more advanced version, which

offers the possibility for safe ATM withdrawals and deposits using biometry.

PalmSecure

With PalmSecure, Fujitsu offers an innovative system for authentication in the banking field, e.g. customer identification by rendering the veins in the hand visible.

Contactless fingerprints

TST Biometrics is the world's only supplier of contactless fingerprint solutions, one of which is certain to amaze on the KEBA stand.

In this "Im Trend Special" you can find details concerning all the solutions on display, as well as KEBA's flexible service concept, which is based on an open-market multi-vendor strategy and directed towards customer requirements.

Discover KEBA's innovative and versatile solutions at the CeBIT and see for yourself why, when it comes to banking automation, the Austrian automation specialists represent the preferred choice.

In the initial years after its foundation, KEBA AG already demonstrated its comprehensive banking automation expertise with complex teller assistance units. Indeed, what began as a two-man enterprise is now an internationally respected company with a portfolio in the banking sector, which extends from self-service access control systems and non-cash terminals, to ATMs with the latest cash cycle technology that includes self-service coin transactions.

KEBA – the perfect partner for self-service cash recycling



In addition to customised product and system solutions, KEBA also offers a flexible services concept, as well as individual, regional customer support. This platform is one of the main reasons why the company has succeeded in developing many long-term customer relationships and strong partnerships. Today, the customer list of the Austria-based KEBA company includes financial institutions around the globe, from the China Merchants Bank, the Deutsche Bank and the Commerzbank, to the largest Austrian banks and the German savings banks.

From its beginnings, KEBA focused on new trends and the ongoing further development of specialized automation solutions and as early as 1982, came up with its first automatic access control systems for banks. Moreover, just three years later, the company provided Hong Kong with an on-line information, control and surveillance system for the world's largest customer safety deposit box depot.

A cash recycling pioneer

At the beginning of the 1990s, an increasing volume of development and improvement potential emerged with regard to financial institution processes and in 1992, the Austrian savings banks launched an initial pilot project involving deposit and pass book automation. Their development partner was KEBA AG, which had just presented a modular ATM at the CeBIT with features that predated everything that was to become standard in the self-service banking segment, such as the full area scanning of bank transfer forms, pass book printing, note and coin deposits and withdrawals, and cash recycling. In fact, it can be said that in technological terms, KEBA achieved the closed cash cycle over 16 years ago!

Technology and innovation leader

In line with its slogan, "Automation by Innovation", even then KEBA was of the same opinion as the banking experts that the shift of bulk business to the self-service sector merely represents a first step, which must be followed by the closing of the money cycle by self-service ATMs. For this is the only way in which the full savings potential in the retail banking sphere can be realized.

Austrian banks recognised these opportunities at an early point in time and ordered numerous KEBA ATMs, which were already compatible for the addition of cash recycling at a later date. In 2002, the ECB sanctioned the cash cycle function and since then, ATMs in Germany and Austria have been successively switched to closed-cycle cash handling.

In 2007, KEBA launched the KePlus, a third generation ATM, onto the market. This system is the result of long-term co-operation with strong international technology partners such as Hitachi. And as a consequence of this teamwork, the performance of KEBA's cash cycle ATMs has been considerably increased and their security levels brought up to the state of the art. The final result is transaction times, which number among the fastest on the market, guarantee highly efficient operations and virtually 100 per cent terminal availability.

A competent partner

As during the initial phases of cash recycling, KEBA continues to be a competent and reliable partner not just to Austrian banks, but also German and other banks and savings banks around the world. Many international customers such as the BCR and UniCredit in Romania, ITS in Dubai and various banks in China trust in KEBA's mature technologies and innovative ideas, as well as its flexible customer support.

This is because KEBA is at the service of its clientele with expert know-how from the initial conceptual discussions to product servicing. Moreover, during the development of complex, tailor-made solutions the company's excellently trained and experienced employees remain in constant dialogue with the customer.

As a result, the Austrian company is constantly one step ahead of its international competitors and always furnishes its clients with the most efficient and innovative answers possible. ATMs "Made in Austria", which apart from technological excellence, above all, score with highly ergonomic design, are relied upon across the globe. Today, the KEBA name is a synonym worldwide for technological and innovative leadership with regard to the deposit and withdrawal of banknotes and coins, and in particular, cash cycle technology. ♦



"As during the initial phases of cash recycling, KEBA continues to be a competent and reliable partner not just to Austrian banks, but also German and other banks and savings banks around the world."



CeBIT

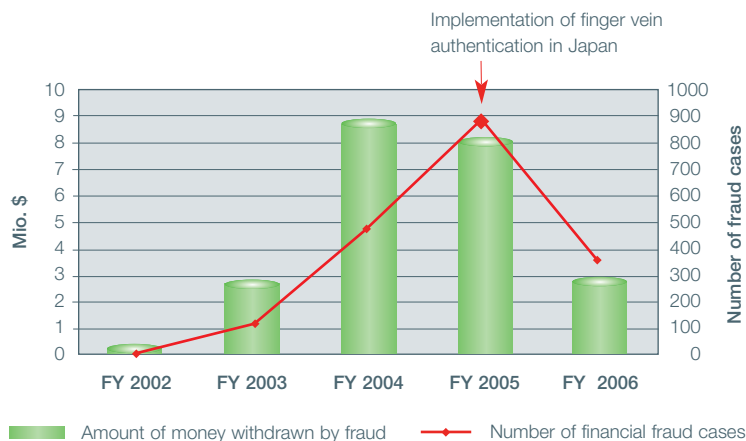
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A highly reliable biometric solution

Finger vein authentication from Hitachi

Finger vein authentication is a biometric method, which utilizes the vein patterns in fingers for personal identity verification. Vein patterns differ between each finger and person and as the veins are hidden under the surface of the skin, fraud is extremely difficult. These aspects of finger vein pattern recognition and security issues have led to the system's adoption by more than 90 financial institutions in Japan including the five major Japanese banks and Japan Post. The finger vein system is also to be used in several Brazilian banks, in order to enhance both security and usability.

The impact of biometric solutions



The diagram shows that the number of fraud cases in Japan decreased by almost 60 percent and that finger vein biometrics could help to reduce the amount of illegally withdrawn money by even 65 percent within a year.

In Europe, KEBA first presented the finger vein solution at the CeBIT 2006 and a more mature version at the CeBIT 2008, where visitors and customers could experience for themselves the basic principle of finger vein authentication for safe cash deposits and withdrawals.

How does the finger vein authentication work?

The following basic principle on which the finger vein authentication system is based was developed by Hitachi. Near-infrared rays generated from a bank of LEDs penetrate the finger and are absorbed by the haemoglobin in the blood. The areas where the rays are absorbed (i.e. the veins) thus appear as dark areas in an image taken by a camera located under the finger. Image processing can then construct a finger vein pattern from the camera image. Biometric features are extracted from this pattern and encrypted so that it can be registered as a template of a person's biometric authentication data. A proprietary

matching algorithm is then employed to authenticate the finger vein pattern and the template.

The dual criteria used for assessing the performance of biometric systems clearly point to the excellence of this solution. The Hitachi finger vein scanner has a false acceptance rate (which indicates how often the system accepts unauthorised persons) of only 0.0001% and a false rejection rate (which indicates how often the system rejects authorised persons) of 0.01%.

The advantages

In addition to these important high accuracy and reliability levels, finger vein authentication has the following advantages:

- Resistance to criminal tampering as the veins are hidden beneath the skin.
- Uniqueness and consistency because, even among identical twins, finger vein patterns differ in every person and remain constant throughout adult life.

- Contactless imaging using near-infrared light ensures convenience and cleanliness, which leads to high acceptance levels among users.
- Ease of feature extraction as finger vein patterns are relatively stable and can be clearly captured, enabling the use of cameras to take vein images for small-size, simple data image processing.
- Fast authentication speeds with one-to-one authentication in less than a second.

Biometrics for greater security in the banking area

A strong increase in illegal withdrawals with forged or stolen cards and in skimming (the manipulation of ATMs by skimming devices, which illegally read the content of the card data) is evident worldwide, not only in Japan and Brazil, but also in Europe. Personal identification on ATMs by physical and logical means (cards and PIN) carries the endemic risk of loss, forgetfulness, phishing and skimming. By contrast, the risks attached to biometric identification are extremely low. Furthermore, finger vein authentication is highly reliable, easy to use and widely applicable.

Studies and reports have shown that the number of skimming attacks and fraud cases can be decreased by 60 percent when using finger vein authentication as biometric solution.

There are many applications available for the deployment of biometric techniques. And especially in the banking area, where security requirements have increased significantly in recent years, biometric techniques are an appropriate way of meeting these requirements and can provide bank customers with major advantages as they offer effective crime protection. ♦

The market for biometric systems, which can be used for personal identification on the basis of certain physical features is extremely exciting and offers very high future potential. TST Biometrics GmbH offers its customers a globally unique sensor system for the contactless registration of fingerprints.

Contactless fingerprint process



“Indeed, the use of biometric solutions clearly promises greater flexibility and security.”

Banks as a main area of employment

In addition to personal identification for access controls, possible areas of application for contactless fingerprint systems include building security or time logging, ATMs, chip cards, sales terminals, e-commerce and public areas such as frontier crossings, registration and social offices, passport/driving licence authorities and police investigations. A study by internationally respected business consultants has shown that in future biometric processes will be mainly employed with regard to IT security in a diversity of branches. Particularly for banks, the authentication of customers is of growing importance, as the share of bank transactions not involving personal contact is on the increase. In order to identify persons on the basis of fingerprints, the individual characteristics of the skin are registered, for as opposed to permits and passwords, which can be stolen, forged, forgotten or passed on, biometric characteristics are inseparably linked to their owners. This means that fingerprint recognition is far superior to conventional recognition methods.

Function

TST is the world's only company capable of supplying a contactless fingerprint system in which the scanning and monitoring of fingerprints merely requires the placing of a finger in a guide above the sensor surface. As opposed to standard fingerprinting systems, no contact between the sensor and the recorded finger surface is needed. In order to register the biometric detail, a special CMOS camera integrated into the sensor registers the finger image. This forms the basis for the so-called reference data set (template), which for example, can be utilized to identify bank customers.

The system is also appropriate for persons, whose skin composition is only suitable for fingerprint recognition to a certain degree when other types of sensors are used. Above all, these groups include young and older persons, as well as people with varying skin pigmentation, or extremely poorly defined fingerprint characteristics. The TST sensor functions particularly well under these conditions, but also with dry, wet or dirty fingers. Owing to the contactless nature of the system, dust,



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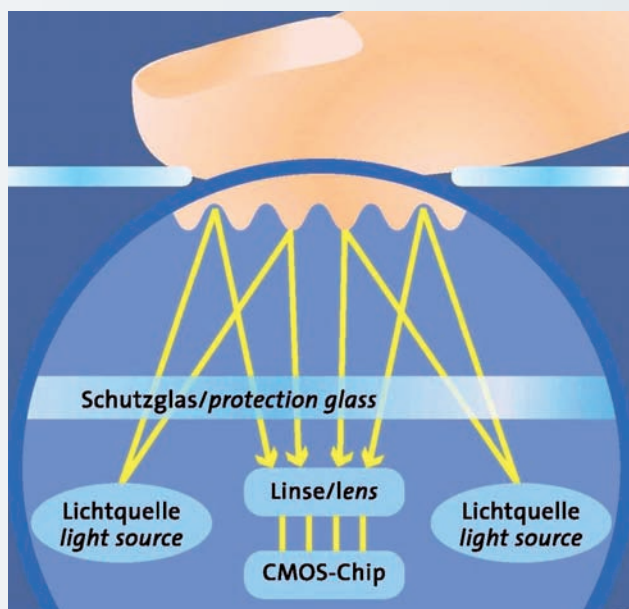
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bacteria or other residues on the skin cannot be deposited on the sensor, which in the case of contact based sensors results in additional loss of

performance. Accordingly, TST sensors do not require such frequent servicing and thus the related maintenance costs are greatly reduced.

been applied to a carrier material cannot trick the system. This is not the case with contact-based fingerprinting, which in this area have the disadvantage that so-called "latent fingerprints" remain that can be removed, or may also lead to false identification.

TST products are used in a diversity of areas all over the world such as the POS, access controls and in the pharmacy sector. Indeed, the use of biometric solutions clearly promises greater flexibility and security. ◆



TST living person recognition for special fraud protection

The device offers a two-level "living persons and false finger recognition" system that constitutes additional protection against attempted fraud and provides a marked increase in security in the financial applications sector. "Stolen fingerprints" that have

A rich vein – banking technology using biometrics

Biometric authentication is rapidly developing beyond the classic areas of application and in addition to access controls, this safety concept with the futuristic feel, is already being employed in sectors plagued by fraud such as the financial and services segments.

PalmSecure as a maximum safety tool

Concrete examples of applications are provided by Fujitsu's PalmSecure biometric security solution. With the aid of near infrared rays, the PalmSecure sensor registers the complex vein structure within the human hand. Enriched with oxygen, the blood flows through the blood vessels in the hand and then returns to the heart with a reduced oxygen content. The blood

less. Accordingly, PalmSecure is also extremely hygienic, which is a major advantage in daily banking with its high frequency levels. In addition, this technology remains unaffected by illnesses such as diabetes and skin diseases.

PalmSecure adds up to a handful of advantages

With its in-house developed PalmSecure system, Fujitsu offers sensor technology that offers the highest security levels, precision, speed and hygiene. The foundation is provided by

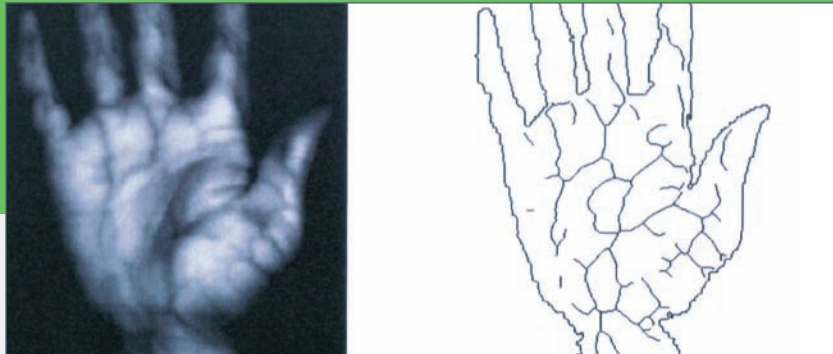
“Forecasts point to enormous growth in the global market for biometrics, which also includes the highly sensitive finance area.”

in the veins with a lower oxygen household absorbs the near infrared radiation of the sensor and thus becomes visible. As the subcutaneous veins below the surface of the hand are in the body and their pattern is extremely complex, forgery or manipulation can be virtually excluded. A further advantage is that as opposed to fingerprints or hand impression vein systems, palm recognition is contact-

the registration of biometric features for all future accessing control processes. In the case of PalmSecure technology this only occurs once in a lifetime, as the position of the veins in the hand never alters. Changes in veins due to size are accounted for in the sensor algorithms. When a person has registered, the pattern logged by the terminal is compared with the stored vein pattern. This check is completed



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Source: PalmSecure sensor of Fujitsu

“The procedure is not determined by numbers or PIN codes and a short movement of the hand is all that is needed.”

within a second and ends either with affirmation, or in the case of misuse, rejection. Fujitsu's laboratory measurements resulted in an “unauthorised person admission rate” of less than 0.00008 per cent and a “rejection of authorised persons” rate of not even 001 per cent.

In addition, PalmSecure technology also carries a safety certificate from the Federal Bureau for IT Security (BSI). The BSI issued this internationally recognized certificate following the successful technical examination of the product in line with general security criteria.

Biometrics in banking

PalmSecure can be used everywhere,

irrespective of whether the security of data, systems or hardware is involved. The procedure is not determined by numbers or PIN codes and a short movement of the hand is all that is needed. In this connection, the combination of biometrics and payment transactions offers two possibilities. Firstly, biometrics can be used as an additional safeguard for EC/credit cards or PIN codes. In this case, customers do not need to get used to a new form of payment and misuse can be sharply limited. Secondly, a possibility exists for the complete replacement of standard card payments by hand vein scanning. As soon as customers have been registered they can be identified biometrically at any time and thus complete their private purchases and

financial activities in comfort and, first and foremost, with a feeling of security. Accordingly, providers of financial services and customers can benefit in a number of ways from the use of biometric processes. They minimize the daily expenditure of energy and costs, as well as nervous stress. Moreover, fraud and misuse is rendered virtually impossible.

Forecasts point to enormous growth in the global market for biometrics, which also includes the highly sensitive finance area. The overriding priority is the realization of individual solutions, as this is an important step towards actual and subjective security in daily banking and financial transactions. All at a simple wave of the hand! ♦

2009 is the Year of the coins...

...at least as far as KEBA is concerned! This is because recently coins have started to advance. A fact not only confirmed by studies, but also the latest circulation figures from the European Central Bank. On November 30, 2008, 81,224 million euro coins with a current value of EUR 20,125 million were in use. This compares with the 2005 figure of 63,352 million, the 2006 total of 69,927 million and the 76,298 million of 2007. These statistics show that the number of coins in circulation has risen by a total of 28.2% within three years (2005-2008).

This trend is set to continue in future and experts anticipate annual growth of 3-5% in the coming years. The reasons for this expansion are laid out in a study from the German Bundesbank, which deals with the question of the identity of coin users. In the main, these turned out to come from the two groups formed by older people and persons in the lower and middle-income groups. Due to higher living standards, Europe's population is ageing, whereby the forecasts point to a more serious greying of society in Eastern Europe than in the West. The expansion of the EU in an easterly direction means that inhabitants have been acquired, who are not only older, but also have lower incomes and therefore the significance is set to increase further. Moreover, first and foremost, coins are irreplaceable for small and minimal sums of money and have experienced a massive upswing in line with that of POS automation (coffee and beverage vending machines, parking meters, etc).

Self-service coin handling and its advantages

Banks and savings banks are also increasingly recognizing the potential offered by self-service coin handling. The recycling of banknotes in self-

service terminals is already widespread and can be regarded as standard.

However, for the realization of a complete financial services concept, it is only logical that coin transactions also be transferred to the self-service area. This not only releases personnel for profitable sales activities, but the banks and savings banks can also achieve an advertising effect during coin transactions through the singularity of this solution in their region. This will result in the active branch rejuvenation and increased customer frequency.

KePlus X6, the all-in-one ATM with a width of less than 900 mm

KEBA has all these trends in its sights and orientates its products towards customer-friendly, innovative self-service solutions. As a logical consequence of banknote recycling, with the KePlus X6, the compact ATM for the deposit, withdrawal and recycling of banknotes and the deposit and withdrawal of coins, KEBA has been concerned with the topic of coins ever since the introduction of the system in 2007.

The KEBA KePlus X6 combines the possibility for coin handling with proven banknote recycling technology in a single ATM with a width of less than 900 mm!

The KePlus X6 is equally suitable for very small, medium-sized and large

The KePlus X6 is:

- compact and customer-oriented
- ergonomic and efficient
- innovative and easy to integrate





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branches. In small branches offering minimum space, all banknote and coin transactions can be completed on a self-service basis. The X6 rolls all cash handling devices into one and thus integrates perfectly into its surroundings. As a result of this optimum blend of minimum space requirement and maximum performance, as opposed to the other systems available on the market, the terminal offers space savings of up to 40cm.

In medium-sized branches, the X6 constitutes an ideal choice with regard to transaction speed and terminal size. Its performance is above average and has been optimized for a body width of less than 90cm.

Ideally in large branches, the KePlus X6 is combined with other KePlus systems, e.g. the R6 in order to prevent the formation of queues. In fact, the KePlus X6 can demonstrate its full range of advantages in every customer situation and environment and thus generate customer satisfaction through innovation, performance and availability.

KePlus X6 has already found its ways into numerous self-service foyers and has not only convinced ITS Dubai and the Commerzbank in Germany, but

also a range of other banks and savings banks.

An extended product portfolio for even more coins

In addition to the KePlus X6, since January 1, 2009, KEBA has also been offering the KePlus CD-Master and KePlus CS-Master. It is no coincidence that these retail products from Novotech Bankssysteme GmbH have been taken into the KEBA product portfolio, as close co-operation characterized by innovative sustainability, has existed between the two companies since 2007.

In addition, Novotech's SCM coin module is a core component of the



KePlus CD-Master

KePlus X6. With two coin sacks, the KePlus CS-Master represents a slimline solution for the paying in of up to 500 coins per minute, while the KePlus CD-Master offers a capacity of four coin bags with up to 1,000 coins per minute. Both systems possess convincing, patented vertical transport and maximum immunity to foreign bodies, which guarantees the highest availability, security and acceptance levels.

Just as KEBA recognized the signs of times 16 years ago and stepped up its specialization in the area of self-service cash recycling, today KEBA is also on the pace with regard to self-service coin handling technologies and solutions. Come and see for yourself at the CeBIT 2009 how and with which solutions KEBA deals with the generally unloved, but frequently used, euro coins!



KePlus CS-Master

Opting for KEBA means the selection of products, which with their mature technology and innovative ideas leave many other solutions behind. Moreover, in order than you remain satisfied with your KEBA systems for many years to come, the company offers a customer service of exceptional quality for maximum cost-efficiency and equipment availability.

KEBA customer services – first class support for top class products





The KEBA service idea

In order to secure your satisfaction with KEBA products on a lasting basis, throughout the entire product life cycle, we see it as our assignment to provide our customers with full cover support and services that are of the highest quality, tailored to individual needs, and above all, flexible.

An international customer service and partner network furnishes quick and reliable assistance that has customer satisfaction at its very heart.

The KEBA service concept

Our flexible service concept is oriented towards the wishes of our customers and is based on open market, multi-vendor strategies. By means of selected partnerships with leading suppliers of multi-vendor services, KEBA enables its clients to achieve the flexible implementation of their own service strategies, while nonetheless securing first class, full coverage services on a sustainable basis, through the appropriate integration of its own support and development expertise.

This holistic approach is mirrored by KEBA's range of support and services.

Reliable support for the whole of a product's service life

KEBA accompanies you throughout the life of a product, from installation preparations to system renewal, with services that are tailored exactly to your standards and needs.

Rollout and installation management

Owing to its vast experience with roll-outs involving large number of machines, KEBA can undertake planning, location preparations, equipment installation and supplementary quality surveillance and thus help you to save valuable resources.

Helpdesk and support service

The technically trained KEBA employees manning the company hotline can assist you with your problems, or ensure that assistance will be on its way as soon as possible.

“Throughout the entire service life of a product, KEBA guarantees a complete spare part supply at fixed delivery times.”

Training and certification

KEBA creates customised training packages for installation teams, service providers, support engineers or service personnel and ensures the appropriate quality assurance through ongoing workshops and certification courses.

Spare part and repair management

Throughout the entire service life of a product, KEBA guarantees a complete spare part supply at fixed delivery times. Should a complex part develop a defect, the KEBA Repair Center will organize qualified and, above all, rapid repair or component exchange.

System changes

KEBA completes all the necessary system changes and enlargements from simple alterations to de-installations (IMAC/R - installation, move, add and change / remove) in teamwork with your personnel. This guarantees a smooth procedure, which has the smallest possible effect on your business operations. ◆



The money just
keeps coming back.

KePlus ATMs with cash cycle
technology represent
an investment that pays.

Minimum cash handling costs in tandem with maximum availability and customer acceptance. This is what KePlus terminals offer for depositing and dispensing in a closed cash cycle, which offers the greatest cost-efficiency of all the available self-service solutions on the market.

Information about KePlus: www.keba.com



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