

# TEMENOS T24

Product Overview

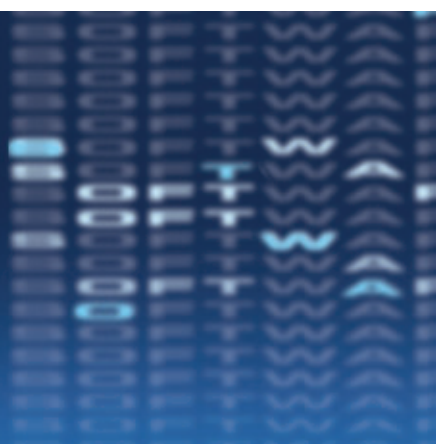


**TEMENOS**  
The Banking Software Company



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Retail Banking	
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# Introduction

## **T24 is a proven solution.**

### **T24 provides a single view of the business – across all business lines in both small and large banking operations**

A major Asian bank is using T24 to support both its corporate and retail businesses in a seamless operation servicing over 10 million accounts. T24 was used to replace several disparate systems across their retail, corporate, treasury and trade finance operations - in so doing, hugely strengthening the management of both credit and operational risk. T24 has here demonstrated its ability to easily support large banking operations.

## **T24 is a proven solution.**

### **T24 enables a reduced infrastructure through a single, integrated architecture**

A leading universal bank in Saudi Arabia migrated to T24 and in doing so was able to reduce the 107 systems it had been using previously to just seven, based around T24 at the core to support all of the bank's retail, corporate treasury and Islamic banking needs.

## **T24 is a proven solution.**

### **T24 brings reduced global platform costs through centralisation**

A leading private bank was originally running six country operations from two international hubs and seven data centres. T24 allowed the bank to migrate to a single hub, with just two data centres and shared service centres, producing a dramatic reduction in costs and a more flexible environment to support future expansion.

## **T24 is a proven solution.**

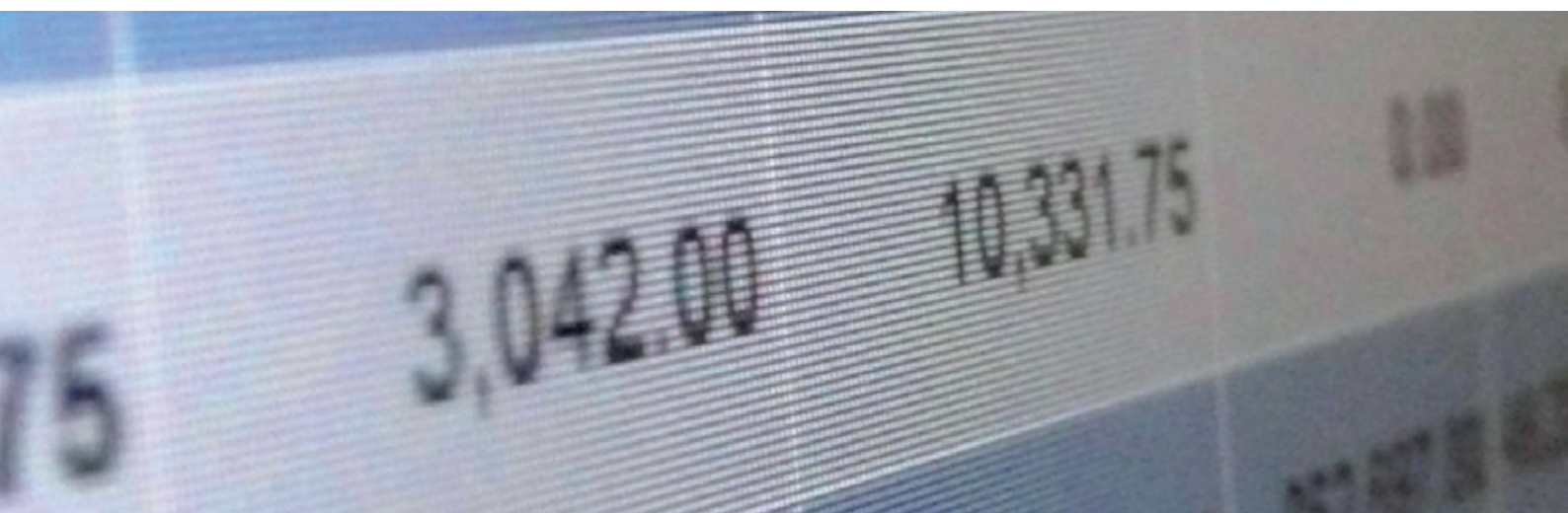
### **T24 provides a reliable infrastructure, so the bank can focus on serving its customers and growing its business**

A global private banking and asset management group, headquartered in Switzerland and with a long history as a Temenos client, used the flexibility inherent in T24 to support organic growth in its own market as well as geographical expansion to a ten country operation, all supported from a single, efficient IT hub. T24 also supported the bank's growth through M&A activity.

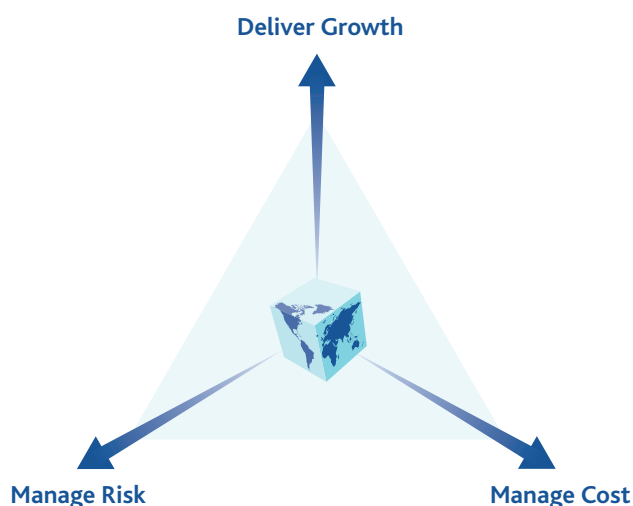
## **T24 is a proven solution.**

### **T24's advanced Service Oriented Architecture (SOA) tooling enables clients to directly leverage the rich suite of T24 business services within modern, flexible, scalable and standard SOA platforms**

A significant regional universal bank has chosen to use T24 to provide the core banking business services within its enterprise-wide SOA implementation. In this environment processes are managed via a combination of business activity monitoring and process orchestration, primarily deployed as Business Process Execution Language (BPEL).



TEMENOS T24 (T24) is the world's leading, packaged core banking software, proven to help banks to:



### Deliver Growth

- T24's single, 360 degree view of the customer and total front to back client centricity enables banks to organise their business around the customer, helping them to improve acquisition, retention and cross-sell rates. With T24 at the core, banks can significantly improve customer service and ensure a more positive customer experience.
- T24's inherent flexibility provides the agility banks need to react to new market opportunities and respond to their customers' changing needs quickly, by offering innovative products and services – with the potential to launch within days. This can give an important 'first mover' advantage over competitors.
- T24 can support almost every financial product and instrument being traded on any market in the world. This functional breadth means banks can enter new business areas, or handle rapid growth in existing areas, confident in the knowledge that T24 will provide the full support required to service the business effectively and maximise revenues in the longer term.
- T24 is inherently and deeply multi-channel. All of T24's services and products can be made available through any channel, and new services and products are available to customers immediately across all channels. As the market evolves, new channels are added to ensure T24 continues to support the new business.
- T24 supports geographical expansion, combining the true 24x7 support necessary for non-stop global operations, with the ability to deliver to a local footprint, taking account of country or region-specific differences in banking practice and culture.
- T24's system design imposes no known limit to the volumes that can be handled: the system uses the latest multiple application architecture to provide linear, horizontal scalability.

### Manage Risk

- T24 is a feature and process rich system, providing a well-documented, efficient way to handle risk and regulatory reporting.
- T24 is highly automated, incorporating significant levels of straight through processing (STP) – across multiple departments, offices and countries within comprehensive and client definable exception handling. This helps banks to reduce errors, reduce risk and enhance control.
- T24 provides a transparent view of each customer's total dealings with the bank, including non-financial transactions. T24's integration across the different business areas, gives the bank's staff a complete picture of their customers' activities, including credit status, enabling staff to make decisions on a much sounder basis.
- T24 is a real-time, genuinely 24x7 system which supports non-stop banking operations. Decisions are made on the basis of the most up to date information at all times.
- The risk of technology obsolescence is eliminated with T24. It is open and supports all the significant technology standards. New releases are delivered annually to ensure that T24 remains aligned with changing markets and technologies.
- With T24 Model Bank, project risk is also minimised. Delivered as a pre-configured solution, with pre-set parameters based on best practice derived from the relevant banking sector, its implementation is faster and much more predictable than is the case with traditional software packages.

### Manage Cost

- T24's broad functional coverage means the number of legacy applications that need to be supported can be reduced, driving down operating costs.
- High levels of operational efficiency and STP mean routine processes are automated, exceptions and problems efficiently managed and fewer people are needed to handle larger volumes. With a reduced number of errors from manual intervention, costs can be further reduced.
- The ability of T24 to support widely distributed operations with shared service centres or 'hubs', both within a country and globally, means that operations can be concentrated and placed in the most efficient location. The ability to consolidate back office staff and operations in a low cost location produces significant business savings.
- Before costs can be managed, they need to be visible. Deep, rich and accurate management information is provided by T24 and the TEMENOS Data Warehouse. This identifies costs incurred in each revenue centre, providing high levels of visibility and ensuring that resources can be allocated more effectively.

# T24 - Adapts to your profile, appropriate to your sector

## A flexible system to meet modern IT requirements

To best suit a bank's needs and existing IT infrastructure, T24 can be implemented in any one of three ways:

- As a complete core banking system, extending from front office to general ledger
- As a component-based system, adding functionality component by component to the bank's existing infrastructure
- As a financial institution framework, incorporating T24 modules into an in-house system development project, to reduce risk and to add proven core application capability

T24's flexible and extensible architecture allows it to be deployed within the smallest start-up operation right through to the largest retail banking core processing environment handling the business processes for millions of account holders.

## Providing a model for each banking industry sector

T24 Model Bank embodies an approach that is unique to Temenos. It was developed as a pragmatic response to the complexity and risk of core banking implementations and as a repository for the best practice that Temenos has learnt over the course of more than 600 implementations around the world. Unlike our customers, who will typically be involved in only one or two large-scale core banking system implementations, we complete anywhere from 30 to 50 implementations successfully every year. T24 Model Bank is constantly being refined as we encounter new best practice models in the various banking sectors we serve, as we work with banks of all sizes and profiles in over 120 different countries.

T24 Model Bank is made available with pre-configured, best practice-based processes to serve the needs of each banking market. The range of Model Bank capabilities, all built around the same software code, includes:

### T24 for Retail

T24 is used to support more than 250 retail operations ranging from the largest international retail banking groups to community banks and new start-ups. T24 for Retail offers broad retail functionality, from the front through to the back office, including CRM and product lifecycle management. Unparalleled scalability and resilience is combined with total customer centricity. T24 for Retail provides support for current accounts, property finance, consumer finance and cash deposits.

### T24 for Corporate

Integrated support on a single platform is provided to banks offering services to corporate and professional clients. T24 enables them to introduce new business models quickly and add value to their customer relationships. Support includes coverage of corporate credit, correspondent banking and cash management, payments, treasury services and trade finance.

### T24 for Universal

Supporting banks which deliver a wide range of products and services across retail and corporate banking, T24 for Universal offers an extraordinary breadth and depth of functionality across all channels, giving the universal bank the ability to offer products and services which compete with more specialised banks, together with the agility and flexibility required to compete with large international banks which may be entering the market. T24's inherent scalability allows banks with many overseas branches to enjoy the benefits of a centralised production facility and product factory whilst maintaining local front office functionality.

### T24 for Private Wealth

Temenos has provided superior banking systems to private banks since its inception. It supports banking for affluent and high net worth individuals by providing front to back office support for the widest range of financial products. These range from the simplest fund and equity based instruments and FX through to structured products, exotic options and hedge funds. T24 for Private Wealth contains extensive discretionary and advisory asset management support, including full performance measurement, plus the ability to maintain and use multi-dimensional investment models. This Model Bank can provide full front to back processing or simply a component of this where, for example, an alternative asset management suite is in use.

### T24 for Islamic Banking

The Islamic Banking industry has developed hugely over the last 20 years, particularly in the Middle East and South East Asia. Temenos has responded by creating a best-of-breed Islamic banking system. As a system which is both Shariah-compliant and commercially flexible, T24 for Islamic Banking supports organisations which operate solely on Islamic principles as well as allowing conventional banks to employ Islamic financial techniques in their banking and provide a profit-sharing framework as an alternative to an interest rate mechanism. So, clients using T24 for Islamic Banking benefit from adopting one core system to address all aspects of conventional and Islamic banking, and it is well-suited to most retail and corporate banking operations.

T24 for Islamic Banking includes support for:

- Murabaha
- Musharaka
- Bei Bithaman Ajil
- Ijara
- Bei Salam
- Istisnaa
- Wakala

### T24 for Microfinance and Community Banking

This Model Bank has been developed for microfinance institutions requiring a mature, flexible and affordable core banking system that is easy to install. It supports the specific operational and processing requirements of organisations engaged in retail, community and microfinance banking in emerging markets: micro lending institutions, smaller retail banks, large commercial microfinance institutions (MFIs) and global networks of financial intermediaries and Credit Unions. To date, Temenos has implemented T24 for Microfinance and Community Banking for more than 60 clients, many with multiple sites, in over 50 countries.

## A global and a regional solution

T24 is deployed in over 120 countries. In each country, in each banking industry sector, in each bank, the underlying core system is identical. This means long term security and protection of investment for Temenos' clients.

We recognise, of course, that each bank is unique. T24 supports this uniqueness through a layered approach: above the core software sit layers of 'model configuration' that embody best practice derived from each banking sector. Above this configuration comes a layer containing regional variations, such as regional regulations, taxation, and product interfaces. This software is maintained by Temenos' regional teams. The final layer is a client-specific layer, which gives banks access to T24's vast customisation capabilities to tailor the system to their specific requirements.

Despite this high level of flexibility, T24 remains fully upgradeable to each new core system release, allowing customers to take full advantage of new features.

**CASE STUDY** A leading Spanish banking group implemented a broad range of T24 modules to support the retail, commercial, treasury and private banking activities of its Miami Branch from a server in Spain, using T24's US platform. The bank needed a banking system that would enable it to control the distribution and flow of data within the bank. With T24, it was able to centralise all of its data, eliminating manual intervention and actively assisting compliance. This has led to a decrease in operational costs and increased efficiency.

# What T24 means for the bank

## Turning market pressures into business opportunities

Market pressures drive both business and systems strategies, as banks strive to:

- Offer new and exciting products to their clients, so generating a fast response to market needs
- Compete effectively with bigger and better capitalised competitors by running more efficient, more agile operations, which result in a strategic cost advantage
- Compete profitably against new entrants to the banking industry, from internet and non-financial organisations for example, whose presence has contributed to the commoditisation of banking services and loss of customer loyalty
- Expand rapidly into new markets and geographies, to take advantage of market opportunities ahead of increasingly aggressive competition
- Understand and manage the customer relationship more effectively and profitably
- Manage cost at a strategic level to enable investment in new opportunities and growth initiatives
- Comply with ever increasing regulation at low cost without hindering innovation, growth and customer service
- Establish coherent IT platforms that support business growth profitably and which are viable as a basis for long term operation
- Respond flexibly and efficiently to merger and acquisition activities

**CASE STUDY** One of the leading names in private banking selected T24 to support a number of its international offices. The system was originally implemented in six countries, but that number has now been increased to eleven, with a Centre of Excellence established in Asia. So accustomed is the bank to the process required that it is now able to open a new country operation using T24 in just twelve weeks. The bank has made extensive use of Temenos' Application Management Services (TAM) in its projects.

## Executing successful strategies using T24

**T24 enables the bank to organise the business around its most valuable assets - its customers.**

### **T24 - improving customer service and retention**

Customer loyalty is increased if customers enjoy a positive experience in their dealings with the bank. In these dealings, bank staff must have immediate access to all of the information they need about the customer and also be able to take any follow-up actions seamlessly.

T24, with its integral front office ARC (Acquire, Retain, Cross-sell), gives both customer and bank staff the ability to see a single version of customer records, across all banking channels, on a single core application. The system delivers key customer information in real-time, via user-friendly screens with powerful and intuitive drill-down capabilities.

Additionally, T24/ARC, offers truly seamless front to back office operational integration and execution - so products sold in the front office are seamlessly serviced in the back office, resulting in improved efficiency and enhanced customer service.

### **T24 - bringing innovative products and services to market quickly and efficiently**

T24's huge flexibility, the result of a parameter-driven design, gives banks enormous scope in configuring new and complex banking products, combined with the ability to launch these within days or weeks rather than months. This means sales and account managers are able to offer their customers the latest products before competitors do.

### **T24 - identifying customer value and implementing personalised customer propositions**

Successful customer acquisition and cross-selling relies on the intelligent creation of sales opportunities and the capture and analysis of information at all stages in the sales cycle. This includes both transactional details and non-financial information, such as the history of past contacts or the customer's reaction to a sales campaign. With this to hand, it is much easier for bank staff to have a transparent view of each customer, resulting in a much more personalised basis for sales decisions and marketing campaigns – and effective personalised sales leads to increased revenue per customer.

### **T24 - providing efficient multi-channel delivery**

T24 is inherently and deeply a multi-channel system. All T24 services and products can be made available to banking staff or customers through their preferred interactive banking channel, in real-time, 24 hours a day, 365 days a year. Combined with T24's product builder capability, brand new services and products can be made available to customers immediately across all channels. As the market evolves, channels are added to ensure T24 continues to support the new business.

## Delivering benefits to all areas within the bank

### T24 for the Business users

#### Breaking down the barriers between IT and the business

As a result of its flexibility, consistency and simplicity of operation, T24 breaks down the barriers which have traditionally existed between users and the IT department: users can achieve far more than they ever could with their legacy systems. T24 is transparent and open allowing users to understand its features, capabilities and its mode of operating. And T24's technical tooling, including programmable extensions, allows the IT department to respond to changing user demands quickly and efficiently without compromising the integrity or upgradeability of the software.

#### Consistency throughout

All T24 components:

- Share a common design philosophy
- Re-use common functions
- Have a common user interface

In terms of user benefits, this means increased efficiency, reduction of errors and lower training costs.

#### Clear sight of the full risk picture

T24's single view allows bank staff to make decisions based on the most complete real-time information possible. These decisions may require a consideration of risk across the entire customer portfolio, including consumer accounts and commercial business, each of which is managed by different departments within the bank. Alternatively, they could be investment decisions necessitating a complete view of the bank's profitability.

#### Driving sales and customer acquisition

Successful customer acquisition and cross-selling relies on the creation of sales opportunities and the ongoing capture and analysis of information at all stages in the cycle. T24/ARC provides support for this cycle by orchestrating the processes that drive sales and customer acquisition. Unlike account-based systems, T24/ARC is able to capture information on potential customers too.

Having started a process that could lead to a sale, it is important to record the full details of customer and bank interactions. All too often, this takes place in disparate applications that may not be visible to each delivery channel. Thanks to the fully integrated nature of ARC and T24 these non-financial transactions are easily and reliably recorded on T24's single database. In doing so, this information is available to all users including the customer where appropriate, through any channel.

### T24 for Finance, Risk and Treasury users

A number of T24's features are particularly valued by the Finance, Risk and Treasury teams:

#### Consolidated, real-time information

All information in T24 is real-time, consolidated, global and 24x7. The modern bank, particularly the global bank, never closes - neither does T24.

#### An integrated view of risk

Both market and credit risk is consolidated and controlled in real-time, 24x7. Extensive and flexible limits are controlled globally and continuously, with exceptions handled smoothly by T24's exception based workflow. Risk is monitored constantly at all levels, from account and deal input right through the entire bank.

#### The flexibility to respond to regulatory change quickly and economically

T24's inherent flexibility allows it to respond to regulations and compliance demands quickly, effectively and cheaply.

#### Flexible accounting to international standards

T24 offers simultaneous, multiple GAAP, cross border where required, and supports IFRS, US GAAP and other important financial standards.

#### Incorporating the latest in Business Intelligence (BI) techniques

T24 offers integrated BI including complete data warehouse, budgeting, segmental performance and integrated construction of business intelligence 'cubes'.

#### Full support for modern credit risk including Basel II

T24 supports Basel II standardised and foundation approaches as well as the calculation of economic capital.

#### A complete audit trail

A fully integrated audit trail from transaction to information is retained indefinitely within T24.

## What T24 means for the bank

### Delivering benefits to all areas within the bank

#### T24 for the Operations team

##### Delivering increased efficiency

Banks demand efficient processes which help them to drive down costs and support expansion, whilst enabling them to continue to deliver exceptional customer service with acceptable levels of risk. Temenos' experience in delivering over 600 banking systems to clients around the world, combined with a commitment to incorporate process modelling within T24, has resulted in a process-rich system which delivers significant business benefits particularly in risk management, compliance, and front office support.

##### Integrated Straight Through Processing (STP)

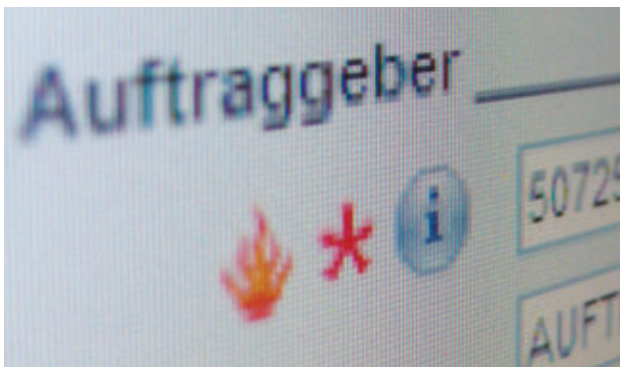
T24 is a highly automated system, with STP enabled on a system-wide scale across multiple departments and locations. User intervention in routine tasks is required only when an exception, set by a 'super user' or as a process condition, is triggered. This leads to greater efficiency, fewer errors and reduced operational risk.

##### Cross company cross border operation

T24's unique design allows it to seamlessly support shared services across multiple installations and multiple time zones. When T24 is implemented as a single hub, all operational activities, across every installation anywhere in the world, can be treated as combined pools of work and can be distributed in the most efficient way. Shared Service Centres (SSCs) can be set up by time zone in low cost areas, and their work can be driven by globalised portals. Work can be shared seamlessly across SSCs.

##### Benefiting from market good practice

T24 is delivered with pre-configured processes appropriate to each of the principal banking sectors. Where an operation or process is routine, then T24 users can be confident they are benefiting from the best practice in their banking sector.



#### T24 for the IT specialists

##### A modern banking platform

T24's broad business functionality and flexibility is supported by an advanced, flexible, scalable and Service Orientated Architecture, which is aligned with modern technology standards for server platforms and connectivity:

##### ■ An open system

T24's openness means banks benefit from a greater choice of platforms and other systems. They benefit too from increased bargaining power – a factor which keeps costs down.

##### ■ Standards based

Alignment with modern standards increases T24's longevity and ensures compatibility now and in the future. This modern base makes it easier for banks to recruit IT staff too.

##### ■ Flexibility

The fact that T24 is a highly flexible system enables the IT department to respond to user demands quickly and efficiently through parameterisation and, where appropriate, through local development in Java or Microsoft C#.

##### ■ Upgradeability

Regular, easy to deploy upgrades to the core system ensure that T24 remains modern and provides new features. The nature of the upgrade process makes this an IT function that requires minimum effort from users. Features exist to fully automate the regression parallel run reducing the risk and cost of upgrading.

T24's annual upgrade enables customers to benefit from the 20% of revenues invested by Temenos in R&D each year.

##### Enables the consolidation of multiple systems

The breadth and depth of T24's functionality, extending across multiple banking sectors, enables the bank to replace many of its existing systems and so reduce the number of legacy applications that need to be supported by IT.

##### Support for expansion and consolidation

T24 is an agile system which delivers all of the capability required to support geographical or business expansion, while post merger or acquisition, T24 provides an ideal platform on which to consolidate inherited systems.

### Obsolescence designed out

T24 has been designed to provide technology independence in each of the main architecture tiers (front end, middle tier and database). This means Temenos can take advantage of advances in technology in any of those areas without needing to re-engineer the entire system.

From a software perspective, the same standard code is delivered to all T24 clients, and as a result of the system's unique architecture, upgrading to each annual new release is a straightforward process. Even if additional functionality has been built around T24, this will continue to operate seamlessly without requiring modification, when the next release of the standard system is taken.

These are the benefits T24 will deliver once it is up and running. The question that every bank wants to know the answer to, however, is 'how do we get to that stage?'

With T24 Model Bank, the answer is, faster and with much less risk than in traditional package implementation. T24's unique design and delivery approach is greatly appreciated by the implementation team.

**CASE STUDY** One of the largest and fastest growing joint-stock banks in Vietnam, which saw growth rates of 30% in 2004 and 178% in 2005, upgraded to the latest release of T24 to ensure it would be able to address future developments in the local banking market. The bank was impressed that the entire project took only eight weeks, and was completed four weeks ahead of schedule.

**CASE STUDY** One of the largest cooperative banks in Latin America implemented T24 in a 'big bang' over a single weekend. The system supports more than 600,000 transactions per day, running over two million accounts, through 250 branches.

## T24 for the Implementation team

### Reduced implementation risk

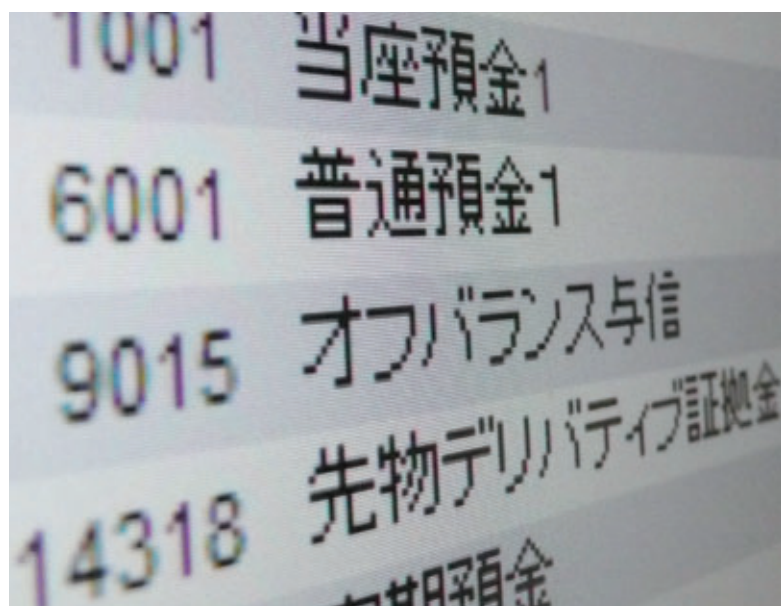
T24 Model Bank distils Temenos' vast implementation experience worldwide into a proven, safe and well-documented implementation approach. This, combined with a rich and comprehensive implementation framework – the Temenos Implementation Methodology (TIM), makes for a cost effective and low risk implementation and ensures a rapid, safe project and fast time to value.

### Fast time to value

T24 Model Bank offers a pre-configured version of T24, along banking sector or regional lines. Enabling implementation times as low as three months and typically between six and twelve months, Model Bank is the ideal solution for banks that need to get up and running quickly and safely with a new core banking system, be this a 'greenfield' project or a system replacement.

### Reduced need for customisation

Since T24 Model Bank incorporates best practice, packaged to meet the need of each banking industry sector, the need to tailor the product is reduced dramatically and can focus on building in features which will act as competitive differentiators for the business.



# T24 – A flexible and future-proofed infrastructure

Providing the most innovative solution in the market today, T24 is the only system that can encompass both front and back office, supporting business operations in every banking sector and offering functional depth and breadth to support all operations activities in the banking business.

Functionally rich, totally integrated and proven in over 600 implementations, T24 provides a full front to back solution from electronic delivery channels including internet banking, mobile devices, right through to settlement, general ledger, enterprise risk management and other back office support functions; all in a resilient, efficient and cost effective environment.

## T24 - A Technology Overview

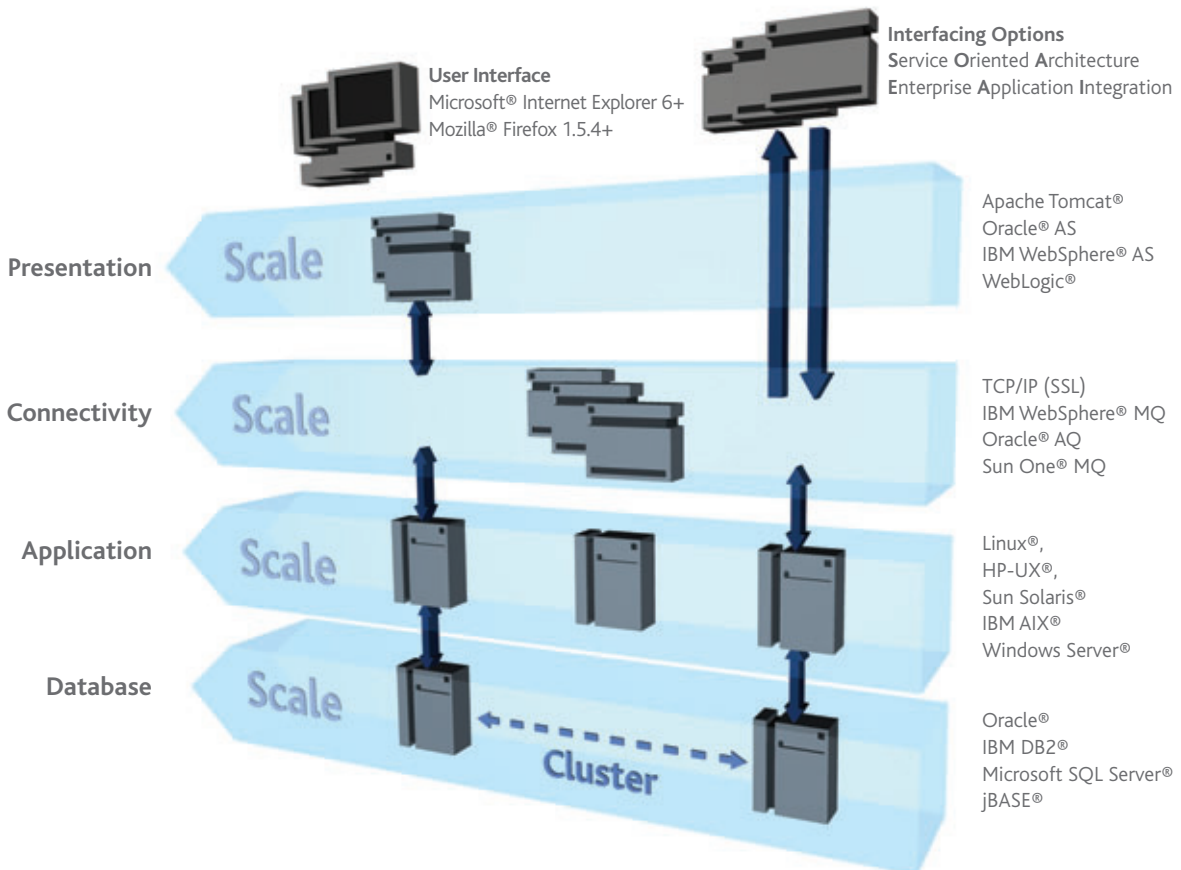
T24 has been designed to meet the needs of modern international banking, combining industry-leading tools, open technology and the latest standards for connectivity with broad business functionality and inherent flexibility.

The key foundations of T24 flexibility are its platform independence, Service Oriented Architecture (SOA), stateless browser client and XML-based message connectivity. Each of the industry standard features of the T24 architecture enables the system to be implemented within a fully scalable n-tier deployment.

This environment ensures smooth scaling to support Temenos' customers' growing needs whilst ensuring that the failure of any one of more hardware components will not stop the seamless operation of the T24 system as a whole.

### T24 Architecture Overview

T24's broad business functionality and flexibility is supported by an advanced, flexible and scalable, Service Oriented Architecture, which is aligned with modern technology standards for server platforms and connectivity.



*“Temenos scored well for both product lines [T24 and TCB] in both advanced technology and banking functionality.”*

Celent, Great Expectations: Can SOA Deliver?  
Part I: Core-Driven SOA (Non-US)

## Support for Open Standards

T24 is platform independent and can be implemented on all major types of Unix, including IBM AIX®, HP-UX®, Sun Solaris® and Linux®, as well as Windows Server 2003® and IBM zSeries®.

T24 is database independent and can be implemented on Oracle®, Microsoft SQL Server®, IBM DB2®, and jBASE®, Temenos' own database.

This commitment to open standards, and compatibility with leading industry standard hardware, databases and operating systems, keeps the bank's options open as to the technical environment and architecture in which T24 operates - at implementation time and also, scaling for the future. Specifically, this strategy allows the bank to:

- Choose a technology and system size appropriate to its profile at that point in time
- Implement T24 on a platform that best matches its strategic technical preference and internal skill set
- Achieve an exceptionally low cost of ownership and take advantage of technology changes and market competition

## Service Oriented Architecture (SOA)

T24 incorporates modern technology including SOA, fully enabled for standard simple object access protocol (SOAP) web services and Business Process Execution Language (BPEL) process execution, and compliant with industry-leading enterprise service buses (ESBs).

Temenos has long believed in the benefits of SOA and we have built strong SOA compatibility into our products since 2003. We are not only contributing to these new standards, but we will ensure that our products support them as they evolve.

**CASE STUDY** One of the leading banks in the Lebanon decided to implement T24 Model bank, including SOA capabilities, along with Oracle® Fusion as the BPEL engine and Enterprise Service Bus, plus Oracle® CRM, Data Warehouse and BI. This allows the consolidation of all of the bank's activities, including purchasing and asset management, on to a single platform.

## Incorporating great scalability and resilience

The architecture of T24 means it can be implemented within a simple client and single server architecture, or can scale up to full n-tier architecture, employing multiple servers in each tier.

This flexibility in solution architecture allows Temenos to work with clients to determine the most appropriate technical systems configuration for resilience, redundancy, performance and budgetary requirements - the decision, however, is ultimately made by the bank, based on its specific needs.

T24 scales dynamically and servers can be added during live operations without affecting the service provision. This ability to 'adapt' in a live environment has very powerful implications from a resilience perspective: should a T24 server fail, the other servers will recover and absorb its load online, until such time as the issue has been addressed and the original server can be reintroduced.

Resilience of this high standard is absolutely crucial in supporting today's demands for global or 24x7 processing and it is a cornerstone of T24's ability to support a truly 'round the clock' environment.

## Integration and full interconnectivity with T24

T24 is channel neutral and offers a common architecture for all channels to interact and invoke functionality within the application. The T24 presentation layer is abstracted from the application. All front-end channels, including the browser client, use a common access mechanism to connect to the application layer by connectivity methods which are based on consistent industry standards.

The basis for this connectivity is the use of XML messaging through Temenos' open connectivity framework and the Open Financial Service (OFS) module. OFS is a message based, real-time, on-line interface that exposes all T24 functionality and, provided the appropriate security criteria are in place, exposes also the entire T24 database to external, message based systems.

This ability to integrate with the bank's requirements for interconnectivity extends to industry-leading SOA environments, with every single T24 transaction, enquiry or workflow process able to be exposed as a Web Service. This capability hinges on the application's inherent business service definition model which renders every transaction deployable by T24 Web Services tooling. Adherence to key Web Services standards and SOA principles to provide this deployment mechanism produces high quality, consistent Web Services definitions, which in turn provide application interoperability with industry standard ESBs and associated applications, such as BPEL engines amongst others.

## T24 – A flexible and future-proofed infrastructure

### T24 – Functional Highlights

#### Flexibility and agility

T24 is driven by many thousands of parameters. This provides great flexibility in the structure and number of banking products that can be supported. This parameter-based configuration translates into business agility for the banks - the ability to develop and launch new products quickly without having to write new code.

The flexibility of T24 extends far beyond that normally associated with packaged software and includes:

##### ■ A modifiable database

The user can extend any aspect of the T24 database adding new fields or tables easily and quickly. Once added, these extensions are treated seamlessly alongside other data, and can be exploited by T24.

##### ■ A parameter-based user interface

The user interface can be modified extensively, including the interface that is provided to the bank's customers via internet banking. This means each screen and report can be customised to reflect the particular needs of bank users or customers. Plus, the resulting system will more fully reflect the bank's business, simplifying work, reducing training and reducing errors.

##### ■ A parameter-based web service design

The same flexibility is extended to the SOA web services which, uniquely, can be created by users within the bank to reflect the services they want to offer to the rest of the bank or to the bank's customers.

#### Business process transformation

Temenos incorporates best practice process models within its T24 Model Bank software. As part of the system implementation project, the management consulting practice within Temenos Professional Services will examine the bank's existing business processes and will redefine them to achieve overall business process flow improvements. This redefinition includes:

- Segregation of front and back office functions
- Reduction of cycle times and hand-offs
- Introduction of Service Level Agreements (SLAs)
- Setting of Key Performance Indicators (KPIs)
- Simplification of the workflow
- Optimised utilisation of resources for business process control and execution.

#### A platform with global capability

Temenos has addressed the difficulties of banks operating across different regions, time zones and markets, enabling T24 to support 24x7 global operations in real-time, with multi-entity functionality supporting separate accounting standards for each location:

- Different branches can be set up along regional or geographical lines, with close of day at different times
- The central system can remain 'on' and run a close of business whilst the rest of the application is still running
- From a commercial and an accounting perspective, management information and reporting can be organised along regional lines and for different legal entities
- Straight Through Processing (STP) operates on a global scale, across multiple departments, offices and countries
- Hubbing enables the bank to operate across multiple countries with just one installation of T24: front office and back office can be sited in different locations, leading to cost efficiencies
- Multi-lingual capability is fully incorporated

#### Compliance with industry standards

T24 supports all widely used industry standards including SWIFT®, FIX® and ISO® where applicable. Temenos is a founding member of the Banking Industry Architecture Network (BIAN), an industry initiative to create standards for SOA in banking.

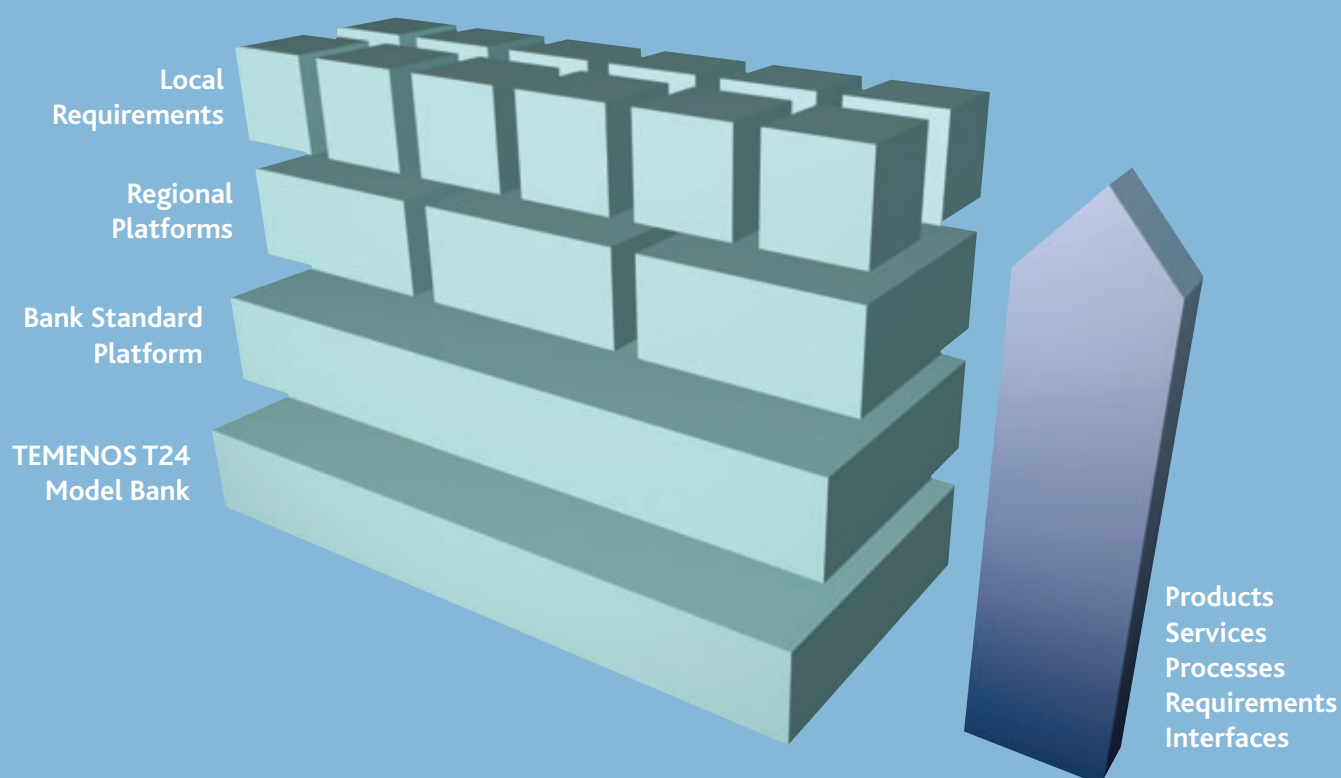
#### Integrated finance and ledgers

T24 has a fully integrated, multi-GAAP, multi-time zone reporting structure, using a rule-driven accounting structure. All products are accounted for in this way, providing efficient, automated financial reporting which accommodates rapidly changing products. No reconciliation is required between products and ledgers.



## Layered architecture for local platform

T24 gives banks the benefits of a software package, combined with a level of flexibility to reflect specific regional or banking sector-specific needs. T24 is delivered as a core banking system, overlaid with the requisite local layer and appropriate Model Bank.



**CASE STUDY** An innovative, low cost Thai bank implemented T24, using Microsoft .NET® architecture for integration; Microsoft CRM® and messaging. The fully integrated core banking system was implemented within a .NET SOA web services architecture within 3 months and the bank went live with CRM and origination in 5 months.

## T24 – A flexible and future-proofed infrastructure

### T24 – Business Coverage

Temenos has completed more than 600 successful implementations in over 120 countries around the world, encompassing banks from every banking sector. This experience combined with high levels of investment in the product of around 20% of revenues annually, makes T24 the most functionally rich, core banking system available today.

In an overview document of this nature it would be impossible to describe in detail each area of business addressed by T24. The following summary offers a sense of T24's extensive functional coverage but, given that this is not exhaustive and that the product is being enriched all the time as a result of new implementations, please contact your Temenos representative to discuss the full coverage of your specific requirements.

Retail Banking	
<b>■ CRM</b> <ul style="list-style-type: none"> <li>• Campaign Management</li> <li>• Prospect Registration</li> <li>• Customer On Boarding</li> </ul>	
<ul style="list-style-type: none"> <li>• Communication Control</li> <li>• Query Registration</li> <li>• Sales cross-selling engine</li> </ul>	
<b>■ Multi-Channel</b> <ul style="list-style-type: none"> <li>• Direct Support for Branch and Internet</li> </ul>	
<ul style="list-style-type: none"> <li>• Open Architecture to support other channels (eg Mobile)</li> </ul>	
<b>■ Transaction Servicing</b> <ul style="list-style-type: none"> <li>• Cash               <ul style="list-style-type: none"> <li>• Till Operations</li> <li>• Vault Operations</li> <li>• Bureau de Change</li> <li>• Cheque Processing</li> <li>• Multi-Currency</li> </ul> </li> <li>• Payments               <ul style="list-style-type: none"> <li>• Domestic</li> <li>• International</li> <li>• Standing Orders</li> <li>• Direct Debits</li> <li>• Sweeps</li> <li>• Bill Payment</li> <li>• Bank drafts</li> <li>• Card Management</li> <li>• Cheque book management</li> </ul> </li> <li>• Credit               <ul style="list-style-type: none"> <li>• Fixed Term Secured Lending</li> <li>• Secured Flexible Credit Facilities</li> <li>• Unsecured Lending Facility Management</li> <li>• Mortgages</li> <li>• Captive Finance</li> <li>• Past Due Debt</li> </ul> </li> <li>• Deposits               <ul style="list-style-type: none"> <li>• Current/DDA Accounts</li> <li>• Deposit Accounts, Fixed Deposits and CDs</li> <li>• Savings accounts</li> </ul> </li> <li>• Other               <ul style="list-style-type: none"> <li>• Product Builder with Component Re-Use</li> <li>• Simple and Complex Interest and Fee Calculation</li> <li>• Customer Level Charging</li> <li>• Passbooks</li> <li>• Dormancy</li> </ul> </li> </ul>	

#### Private Wealth Management

##### ■ Asset Management

- Discretionary Support
  - Multi Dimensional Modelling
  - Dynamic Modelling
- Recommendation Lists
- Automatic Rebalancing Order Generation

##### ■ Front Office

- CRM Support
- Order Initiation
- Position Control
- Position Accounting
- Performance Measurement
- Fees and Charges

##### ■ Middle Office

- Order Grouping
- Order Routing
- Order Execution
- Trade Creation
- Structured Instrument Manufacture

##### ■ Back Office

- Settlement
- Reconciliation
- Client Reporting Feed

##### ■ Asset Class Range

- Equities
- Fixed Income
- Rights
- Options
  - ETD
  - OTC
- Alternatives
- Structured Products
- Deposits
- Fiduciary Processing
- FX
- Guarantees
- Collateral and Margin Calculations

#### Corporate Banking

##### ■ Payments

- Multi-Channel Initiation
- Queuing
- International
- Domestic
- Bulk payments (e.g. payroll)

##### ■ Credit

- Term Loans
- Project Loans
- Revolving Finance
- Secured and Unsecured Terms
- Flexible Schedules
- Syndicated Lending

##### ■ Limit Management

- Hierarchical Customer and Product Limits
- Covers all Products
- Product Weighting
- Contingent Accounting Support for Unutilised Lines
- Fixed and Swing Limits
- Collateral Handling and Valuation

##### ■ Cash Management

- Automatic Sweeps
- Notional Cash Pooling
- Reversing and Non-Reversing Pooling
- Compensation Calculations and Processing

**Corporate Banking continued**

- **Trade Finance**
  - Import Letters of Credit
    - Issuance
    - Amendments
    - Drawings
    - Re-Financing
  - Export Letters of Credit
    - Advise
    - Confirm
    - Amendments
    - Drawings
    - Discounting
  - Collections
    - Outward
    - Inward
    - Clean
    - Drawings
    - Discounting
  - Guarantees
    - Multiple types supported including
      - Bid Bond
      - Performance Bond
      - Shipping Guarantee
      - Generic Guarantee
  - Invoice Factoring

**Treasury Operations**

- **Forex**
- **Money Market**
- **Securities**
- **Forward Rate Agreements**
- **Interest Rate Swaps**
- **Repos**
- **Cash Pooling**
- **Nostro Reconciliations**
- **Confirmation Matching**
- **Futures and Options**
- **Fixed Income**
- **Equities**

**Core Support**

- **Multi Currency**
  - All Products in any Currency
  - Multi-Currency General Ledger
  - Multiple Reporting Currencies
- **Multi Entity**
  - Multiple Departments
  - Multiple Trading or Banking Books
  - Multiple Legal Entities
- **Non-Stop Processing**
  - 24x7 Support for each Entity / Company
  - "Follow the Sun" support for Multi-Time Zone Operation
- **Image and Document Management**
  - Image and signature capture
  - Document management



## T24 – A flexible and future-proofed infrastructure

### Additional products, fully integrated with T24

#### TEMENOS ARC (ARC)

ARC (Acquire, Retain, Cross-sell) is integral to T24. ARC provides a front office suite offering multi-channel banking from a single platform. ARC features operational and analytical CRM, workflow processing and multi-channel delivery. This functionality enables the bank to improve customer knowledge and, hence, customer retention. ARC also helps the bank to improve customer acquisition and cross-sales activities, so making marketing activities more cost effective.

ARC has been packaged for the retail, wholesale and private banking markets and is delivered as part of the Model Banks for those banking sectors.

Leveraging T24's real-time single view of the customer, ARC provides:

- improved business efficiency through front to back office transaction handling and servicing capabilities
- increased business performance from CRM tools which improve customer acquisition, retention and cross-sale rates.

ARC's functional coverage includes:

Functional coverage	Description
<b>Customer Relationship Management (CRM)</b>	<ul style="list-style-type: none"> <li>• A single view of the customer, that can be efficiently managed, presented and updated across multiple channels.</li> <li>• The ability to treat the customer as a relationship as opposed to an account number.</li> <li>• Both analytical and operational CRM are supported.</li> </ul>
<b>Sales and Performance Management</b>	Appropriate data consolidated into value added reports that can be used to drive and reward the appropriate staff activity.
<b>Campaign Management and workflow processing</b>	End-to-end management of sales campaign processes, both from customer initiated contact, or outbound marketing activity.
<b>Delivery Channel Management</b>	The cost effective provision of products and services across multiple channels in a way that meets the needs of the business.

#### TEMENOS Data Warehouse

Banks accumulate valuable data relating to customers, products, channel usage and their internal organisation within their operating systems. They often find it difficult, however, to deliver this data to their business users in a way that is readily comprehensible. The difficulty is compounded when several systems are deployed, resulting in problems of data inconsistency or omission. Improving data management is therefore an important IT priority. Once this is achieved, business intelligence tools using On-Line Analytical Processing (OLAP) can be used to present multi-dimensional views of the data. The results of this analysis help managers to understand the underlying dynamics of their business, leading to better informed strategic and tactical decision-making.

TEMENOS Data Warehouse enables banks to benefit from the rich data residing in T24 and other systems, using online Extract Transform and Load (ETL) parameters and stored procedures to populate an extendable data model, deployed on a standard relational data base. User-defined attributes (often added to provide additional analytical filters) can be included in the extract.

Data cubes are created to permit the rapid retrieval of data to support queries at the aggregate level, but with full drilldown to the finest level of granularity. Banks may build their own data cubes to facilitate analysis using commercially available tools, such as those from Cognos® and Microsoft®. However, Temenos also offers pre-built data cubes in order to accelerate deployment and to provide some immediate business benefits.

#### TEMENOS T-Risk (T-Risk)

T-Risk can be used as a stand alone risk management solution, but it is also fully integrated with T24. T-Risk handles the calculation of regulatory and economic capital, enterprise-wide, and supports both the Basel II regulations, and enables a bank to fine-tune the amount of capital required by each of its business areas to maximise economic and financial returns. T-Risk allows banks to manage credit and market risks too.

Using T-Risk, senior managers are able to:

- Examine and compare how different parts of the organisation are performing
- Price products more accurately to represent risk factors and capital consumption
- Manage capital allocations to ensure long term profitability

T-Risk provides a predefined, Basel II-driven data taxonomy and acts as the data 'concentrator' for all the data from disparate source systems. T-Risk is also available integrated with Temenos' various T24 model banks.

### TEMENOS ProDB (T-ProDB)

Recent regulatory changes, caused by the introduction of Basel II, IAS/IFRS, and in particular MiFID, have triggered a huge requirement for data on a cross divisional basis, thus presenting a significant challenge for data management within the bank.

Temenos' solution for data challenges is an Enterprise Data Management system that optimises the quality of data fully automatically. Based on a highly sophisticated rules engine T-ProDB consolidates and validates data from various sources and dispatches it to user-defined systems.

Its modern technology and inherent flexibility mean that data can be imported in XML or CSV files, in any attribute formats; while database tables and SOA features facilitate exporting data. Changes are handled through parameterisation rather than coding - most importantly, T-ProDB delivers web service access out of the box.

The software reduces the resource requirements for checking and error processing and removes the need for multiple interfaces.

# Summary

## TEMENOS T24 - the reasons why

In this brief overview, we have tried to highlight some of the ways in which T24 can help your bank to thrive in the face of industry challenges.

But don't just take our word for it - banks are 'voting with their feet'. T24 is the system which more banks are buying than any other: Temenos has appeared in the top two positions in the IBS Sales League Table each year for the past ten years.

These banks have discovered that T24 provides:

### ■ A platform for business growth

T24's functional breadth and depth mean it will continue to provide support to banks as they move into new business areas; while its ability to provide multi-channel banking allows new business opportunities to be seized as the market evolves. T24 is a hugely scalable system, with no known limit to the volumes it can handle. T24 is the ideal platform to support geographical or business expansion and on which to consolidate systems in a post-merger or acquisition environment.

### ■ A platform from which to compete effectively...

#### ...Through improved customer service

T24 helps to organise the bank's business around the customer, rather than in traditional divisional silos, so giving a 360 degree view of customer relationships which facilitates enhanced customer service and enables more effective marketing and sales campaigns, and improving customer retention and acquisition.

#### ...and the ability to rapidly introduce new products and services

T24's inherent flexibility allows the bank to react quickly to demands for new products and services and launch new products within days, rather than weeks or months, achieving unparalleled levels of business agility to maintain a competitive edge in the market.

### ■ A truly global platform, combined with local support

T24 combines the true 24x7 support necessary for non-stop global operations, with the ability to deliver to a local footprint. Temenos' consultants operate from 44 international offices so they understand local needs - local clearing house, payments and regulatory requirements, for example. And they speak the local language: our 2,300 employees encompass some 60 nationalities and speak over 60 different languages. They have delivered products to more than 600 clients in 120 countries and, unlike some software companies, our clients will continue to have access to consultants who are familiar with their requirements after their implementation has been completed: we don't fly people in and then fly them out again once the initial project is over.

### ■ A seamless operation from sales to execution and delivery

T24 is the only truly seamless front to back office core banking system, serving all banking sectors. This integrated system approach enables banks to offer superior customer service, increase the speed to market for new products and run efficient banking operations.

### ■ An efficient process-driven operation

T24 is a process-rich system which can deliver significant business benefits particularly in risk management, compliance, and front office support.

### ■ A system for the future

Temenos has never compromised on the use of open standards in its systems: T24 will work with any of the industry-leading hardware, database and middleware solutions. We believe the open architecture approach constitutes a blue print for the way systems should be managed over the next decade and beyond, by banks of all sizes wanting to secure lower cost of ownership, flexibility and control over their destiny.

Temenos consistently invests around 20% of revenues to Research and Development – significantly more than its peers. This investment in new technology, functionality and in meeting new regulatory requirements allows us to deliver products like T24 that are consistently 'state of the art'.

### ■ A sound investment

Temenos believes in enabling clients, not ensnaring them. T24 is a truly packaged product - the same standard code is delivered to all clients and the upgrade to each of its yearly new releases is straightforward to accomplish. This is especially important for banks that have extensive individual requirements to extend T24, as their software will continue to operate seamlessly, without the need for modification, when the next release of the standard system is taken.

Temenos' approach makes for a much better investment than that offered by some software vendors who offer bespoke versions of their applications, heavily customised during implementation. These very quickly become expensive constraints when viewed against the rapid advances in technology and markets. Temenos has rejected this approach, which fosters a dependency on the vendor and can lead to banks having to replace their core banking system every few years – a strategy which Temenos does not consider viable in terms of business risk or cost of ownership for our customers.

# ICES

**CASE STUDY** A leading investment bank selected T24 to support its high volume securities operation. The system was implemented on Linux® blade servers. It was able to 'right-size' its technology investment while retaining the ability to scale quickly. Since implementation, T24 has supported record growth and profits.

# Summary continued

## We give you a choice

We have always believed in giving our clients a choice: banks can use the modular nature of T24 to add or remove front or back office functionality during implementation or at a later time, as required. And of course T24 components will operate within a modern SOA architecture.

## Temenos - a total commitment to banking

Temenos is the only software company to have committed to banking as its sole domain and we live or die by the success of our banking systems. This success depends on our ability to offer specialised domain expertise. We have over 2,000 expert staff working with T24 for our clients - the largest team dedicated to a single, integrated banking system.

T24 Model Bank derives from this single-minded focus, expertise and experience. With this solution, our customers benefit from a pre-configured product with industry best practice built-in, enabling fast and predictable implementations with immediate, measurable benefits.

## An ongoing momentum

The software is only part of the solution, however. We also offer a wide range of Professional Services which will help the bank to obtain maximum value from our systems. From project initiation, through the implementation itself, to live and beyond, our experts will work with our clients to reduce project risk and ensure that T24 is delivered on time, within budget and in line with their original business objectives.

The achievement of a successful core banking system go-live, with the resulting enhanced business operation delivered by the new system, is a major milestone for any bank. The banking business does not stand still, however, and nor should your system. So this should not be the end of our involvement with you. Once the system is live, we are proactive in maintaining the momentum, through a whole range of support services, to ensure T24 continues to sustain your business needs and delivers the return on investment you expected when you selected it as your core system.

We are constantly planning for the future requirements of our clients. When you invest in T24 from Temenos, the future of your system is assured by:

- Our passion to serve our clients
- Our strong commitment to research and development
- The sole focus of our efforts on banking
- Our corporate and financial stability

We invite you to talk to us to see how your organisation can benefit from TEMENOS T24.



## About Temenos

Founded in 1993 and listed on the Swiss Stock Exchange (SWX: TEMN), Temenos Group AG is a global provider of banking software systems in the Retail, Corporate & Correspondent, Universal, Private Wealth Management, Islamic and Microfinance & Community banking markets. Headquartered in Geneva with 44 offices worldwide, Temenos serves over 600 customers in more than 120 countries.

Temenos' software products provide advanced technology and rich functionality, incorporating best practice processes that leverage Temenos' experience in over 600 implementations around the globe.

Temenos' advanced and automated implementation approach, provided by its strong Client Services organisation, ensures efficient and low-risk core banking platform migrations. Temenos annually invests around 20% of revenues in R&D, significantly more than its peers, into a single fully packaged upgradable software release, which ensures all Temenos customers benefit from modern technology and support indefinitely.

For more information please visit [www.temenos.com](http://www.temenos.com)

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