



TEMENOS
The software specialist for banking and finance

Digital Banking

"We wanted to build a digital bank quickly...what we achieved with Temenos was remarkable."

Dan Dickinson, Chief Digital Officer, EQ Bank



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Introduction

Whether a bank is a 21st century start-up or established centuries ago, becoming a true digital bank is top of the agenda for most C level executives - CEOs, CIOs, CMOs as well as the newly-minted roles of Chief Digital Officer and Chief Customer Officer.

Digitization gives banks the opportunity to take customer service to the next level at the same time as offering the possibility for much higher automation and related cost efficiencies. Essentially, we believe digitization takes banks from being product providers to offering a continuous contextualized service, helping customers to better understand their financial and commercial affairs and make smarter decisions.

However, there are few shortcuts to becoming truly digital. It requires banks to operate a digital stack that is real-time, open and vertically integrated, enabling banks to offer the right services and content, own-labelled as well as third-party, over the right channel at the right time and with the ability to fulfil all orders and enquiries instantly.

This paper sets out how Temenos' end-to-end, integrated Suites provide the capabilities for our clients to deliver engaging and empowering digital banking experiences to their customers and staff; solutions which, as with everything we do, are open, packaged and upgradable – ensuring our clients never fall behind.



Examples of digital success with Temenos



RAPID DEPLOYMENT – rapid deployments, retail 8 weeks, corporate 10 weeks, 2 languages, multiple devices – desktop, smartphone, Smart TV, tablet.



REDUCED COSTS – reduce maintenance costs of channel applications by up to 85%.



SPEED and UX - It only takes 15 minutes for Metro Bank to open a new customer account.



SCALABILITY - M-Shwari seamlessly onboarded 3 million customers in 5 months (>10 million as of mid-2015) and has exceeded its business targets.



NEW DIGITAL BANK - Canada's EQ Bank: an online savings bank from scratch in 18 months.

What is a digital bank?

At Temenos, we believe that being truly digital means enabling “experience-driven banking”. This needs to cover both the customer experience and the execution experience.

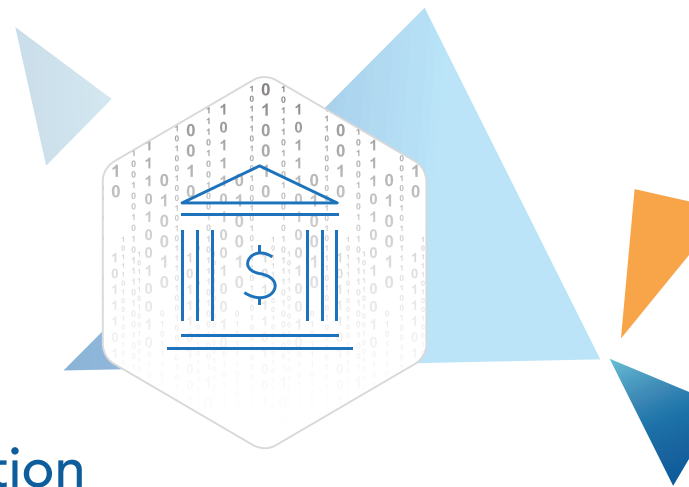
A digital bank offers customers contextualized, seamless experiences that transform the customer journey. And becoming a digital bank means delivering a compelling and relevant customer and execution experience through an open, integrated and flexible architecture. True digital banking can be condensed into two key and distinct factors.

Customer Experience

The sum total experience that enables customers to self-serve, in real time, via multiple devices, with environmental context that results in a personal and relevant experience. This requires online access to all products and services as well as the real-time customer intelligence to be able to provide relevant, contextualized and personalized content and offers at the right time and on the right device.

Execution Experience

The sum total experience that enables organisations to deliver on-demand services with minimal human involvement via straight-through-processing whilst enabling internal bank users to serve clients via offline channels and continuously improve products and processes. This requires an end to end digital platform and architecture.



The fundamental digital equation

A simple way to summarize what a digital bank needs to offer a customer, and what Temenos’ digital banking solution provides is: $A+B+C = D$

A = Anytime, anyplace, any channel – this is what customers expect. Whether they are retail bank customers, High Net Worth (HNW) investors or corporate customers – their expectations are banking on their terms.

B = Better banking, beyond the traditional banking service – using customers’ data to become a virtual advisor, helping customers to make better financial and commercial decisions.

C = Contextual – the service, communication, rewards and products you offer to meet customers’ expectations, needs to be driven by data and analytics and personalized to their requirements.

= D – Digital banking

Digitization – only the beginning

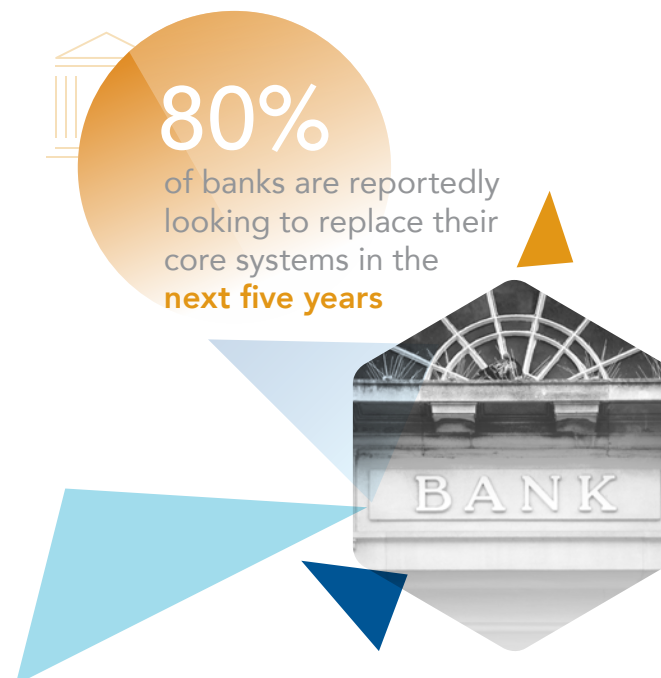
Most banks have implemented some form of digital transformation strategy and most are beginning to see rewards in terms of customers using cheaper-to-serve, self-service channels. The 2016 annual Capgemini World Retail Banking Report demonstrates how quickly customer channel preferences have changed, with mobile making up 33% of customer interactions compared to 22% in 2014.

Despite these first steps, however, many banks have failed to see the desired return on their digital investments. Many early adopters of online and mobile channels find they are unable to offer a fully digital banking service, as investment in channels or the front end have been insufficient.

Crucially, not modernizing core systems has left these early adopters unable to deliver the required levels of customer experience. In the absence of Straight Through Processing (STP), real-time and complete customer transactional information and the ability to offer tailored products to any customer at any time, banks have become aware of the limits of quick-fix digitization. Where the data and content being served up is neither relevant nor timely and where the underlying fulfilment mechanisms are not instant and frictionless, customer satisfaction suffers. A [recent report](#) from JD Power, for instance, showed how closely satisfaction corresponds to the breadth and depth of banks' digital offerings.

Were that not enough, the investments in quick-fix digitization have actually rendered banks' IT estates more, not less, complex. This has added to the already massive costs of maintenance (which today stand at 80% of IT spending). It has also exacerbated several other challenges around speed to market for change and analytics as well as made it harder for banks to take advantage of new technological trends such as APIs and Open Banking.

It is not surprising, therefore, that many are reappraising their digital strategies and recognizing the importance of core renewal as a foundational step – the reason why 80% of banks are reportedly looking to [replace their core systems](#) in the next five years.



In addition to requiring core renewal, however, there are several other impediments to greater digitization.

1 There are the historical barriers to digitization such as legacy systems, data siloes and high IT maintenance costs (which as already noted account for [almost 80% of banks' IT spending](#), crowding out investment in innovative, revenue-generating areas).

2 Regulation also plays a factor, not insofar as it directly hampers innovation but in that, indirectly, by taking up such a lot of bandwidth across the organization, it limits the time and resources that can be spent innovating. At JP Morgan, compliance headcount is up 87% since 2011 (from 23,000 to 43,000).

3 There is an inherent aversion by banking boards to taking on expensive and risky transformation projects that are lengthy and with long time to value – Capgemini estimates the average payback time to be around 4.5 years

4 As noted, initial investments have not delivered expected returns, making it harder to justify additional initiatives.

5 Fintech and other competitors have so far taken little market share – reducing the perceived urgency to act

6 Vendors' digital propositions are often largely unproven and over-hyped.

Nonetheless, the need to digitize is growing.

Many would point to new competitors entering the banking market who, unencumbered by legacy systems, can offer discrete financial services at a lower price or with better service and who, Accenture believes, could take [up to 32% of banks' revenues by 2020](#). But, much more important is the opportunity foregone by banks themselves – to capitalize on digitization to play a much more important role in customers' lives, becoming a virtual digital advisor helping them to make smarter commercial and financial decisions as well as introducing them to a broader range of products and services offered up through the bank's platform via open banking.



Overview - Temenos approach to Digital Banking

The Temenos Suites not only empower banks to transform their customers' experience, but overcome the long-standing barriers to investment by, for example, enabling banks to progressively renovate systems, thereby speeding up time to value and lowering risk to value.

The Temenos Suites provide the solution for banks to serve up the right customer insights at the right moment, via the right channel, at the same time as driving massive efficiencies in the back-office: in short, they offer front office differentiation with back office automation.

The two are highly connected. Having a user interface that is intuitive and seamless is essential. But the quality of the overall user experience requires that banks are able to draw insights in real time and from multiple datasets. Moreover, the speed of fulfilment is also critical, and so it really matters that the digital solution is front-to-back.

The Temenos digital suites stand apart from other solutions in the market based on four factors: their completeness (they are fully front-to-back), their modularity (they can be deployed in stages, allowing for faster time to value and lower risk), their upgradability (meaning that banks always stay ahead of market trends) and their openness (meaning that banks are able to take advantage of innovation and services from third parties using APIs).

The Suites cover front, middle and back office capabilities in a single, integrated solution. They combine the following: Temenos' award-winning core banking solution which is modern, agile and massively scalable; a front office solution that leverages artificial intelligence to analyze transactional, locational and contextual data and serve up relevant content, personalized recommendations and real-time campaigns; and the Temenos' User Experience solution, a highly efficient platform for channel and device management. The Suites bring together therefore all of the benefits of a modern core system, such as fast product launches, real-time and complete transactional information as well as the instant fulfilment offered by 99%+ STP, with

predictive analytical capabilities operating across an open catalogue of products, (covering own-labelled and third-party products), with a user experience platform offering a rich, seamless and consistent customer interface across all channels. As such, it gives banks the ability to offer truly personalized customer experiences, tailoring products and content to individual customer needs and offering them up at the time and on the device they are needed, as well as fulfilling customer demands instantaneously.



CorporateSuite



MicroBankingSuite



FundSuite



RetailSuite



IslamicSuite



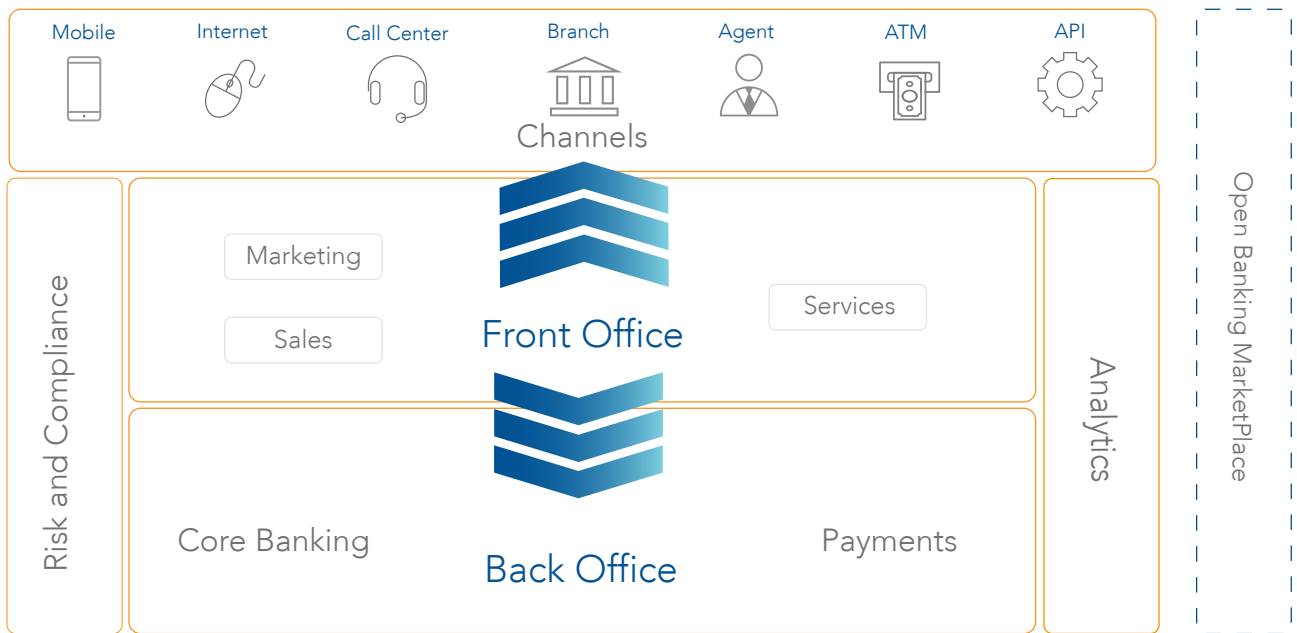
UniversalSuite



Lifecycle ManagementSuite



WealthSuite



Since the solution is made up of integrated, yet modular, parts, it can be implemented in stages. Many of our customers choose to implement channels and front office initially and then go on to replace core banking or vice versa. Some choose to replace line of business by line of business. Some, like [Equitable Bank](#), even choose to start completely new banks to which they can migrate existing business over time.

The advantage of these implementation options are obvious but still worth stating. They break projects down, meaning that the initial capital outlay is lowered and the payback on that spend is quicker. They reduce risk since each project can be broken into tightly scoped, easily manageable parts. They allow banks to address their biggest pain points first, whether that be, say, cost of maintenance or the look and feel of banks' mobile channels.

They also allow banks to deliver on the business case and so unlock the next stages of investment, overcoming any board level misgivings. But, ultimately, the bank ends up with the fully integrated solution that allows for front office differentiation and back office automation, delivering the best digital experiences at the best price point to end customers.

As with all Temenos software, the key constituents of the Digital solution are independently upgradable. The use of cutting-edge enterprise architecture keeps them decoupled from one another, enabling banks to pursue optimal renewal and innovation cycles – faster in the area of customer/user interaction (channels and banking apps), and slower in the area of underlying business systems. As a result, once our customers have made the investment, they never fall behind again.



How the Temenos Suites deliver the 10 critical necessities for digital banks

Below, we offer our checklist of the capabilities that a bank needs if it is to be truly digital. While many solutions providers could also lay claim to providing some of the capabilities, it is unlikely many can provide all. In particular, we believe that having a modern, real-time core banking system that is fully integrated with channels and front-office is essential to provide some of the capabilities – namely, true customer centricity, instant fulfilment, fast time to market, cost efficiency with low operational risk and truly contextualized analytics.



1. Banking anytime, anywhere and on any device

With mobile as the fastest growing channel and soon to overtake internet, it is not surprising that many banks are following a mobile-first strategy. Temenos' solution fully supports this, with a channels solution that covers all mobile operating systems and devices, allowing a consistent user experience across them and other channels, building once and deploying multiple times. It also has the benefit of being future-proofed, to embrace new and emerging channels such as chat-bots.



2. Contextualized and personalized customer analytics

Temenos allows banks to create an analytics-driven experience for their customers. It enables banks to harness their wealth of customer and market data and transform it into valuable business intelligence to support better decision making across the enterprise and to enrich all interactions with customers. The analytics are embedded in the front office platform, predictive and available to front office staff through visual dashboards of customers' profitability, loyalty, attrition risk and number of products, meaning staff can use this data to tailor customer experience accordingly. The analytical capabilities also real-time and combine transaction data with locational and contextual information derived from social media or otherwise, allowing the bank to provide the right, personalized content and compelling product offers at the right time and over the right device. Traditional CRM implementations that rely on complex integration and which emphasize process but without

the context have failed and banks now recognize context is key. Digital Engagement, part of the Temenos Suites, brings CRM, product origination, product manufacturing, social media into one platform to deliver real time campaigns that are relevant and contextual at the time of interaction with the customer through any channel, anytime.

In addition, not only does the Temenos platform allows banks to offer customer insights and recommendations that are relevant, timely and personalized, but its product building capability allows banks to offer products that are unique to individual customers. With Temenos product builder, which groups product components to allow for re-use and thus personalization at scale, banks can create products tailored to individual customers, with pricing, rates and terms that suit them and their lifestyles.



3. Customer-centric

If a bank just modernizes its digital channels without addressing its siloed core banking infrastructure, it will fail to deliver a wonderful, customer-centric experience. As well as slow customer fulfilment and irrelevant offers, customers won't be able to use all products over all channels nor see a complete and real-time view of their financial affairs.

Conversely, with the Temenos Suites, all products and services are available over all channels, with seamless integration. Because the product catalogue and product origination are at the heart of the solution seamlessly integrated with the front and back office, any product, in house or third party, can be originated over any channel or device: banks customers can even originate and secure a mortgage over a mobile channel in just a few minutes. In addition, our solution gives customers a real-time and complete view of their financial affairs. Since the Temenos front office platform is seamlessly integrated with its core banking platform, they can access customer information in real-time and give customers a fully current view of

their financial affairs. In addition, since the core banking platform is built around customers, not products, the information offered is complete: that is, customers can see not just a real-time view of their financial information but a complete view of all of their balances – available over any device, anytime.



4. Instant fulfilment

It is easy to miss or overlook the importance of the digital infrastructure and assume that the richness of the visual interface is really the only thing that counts. But, as discussed, that customer experience is heavily dependent on the content, the context and quality of data and how quickly it can be analysed and served up. In addition, customer enquiries and transactions must be fulfilled instantly. This is where an end-to-end stack matters. Temenos' core banking solution is automated from front-to-back, resulting in extremely high levels of straight-through processing. This means minimal human intervention is needed in handling any orders, which in turn means that customers' demands are fulfilled instantly providing the necessary levels of gratification. It also means that transaction information can be served up in real-time, whether balance enquiries or product offers.





5. Extendable: embrace the power of open banking

Open banking represents a massive opportunity for banks. It gives the means for them to provide a broader range of products and services than just their own manufactured offering. As such, banks will be in a better position to act as trusted advisors, helping customers understand their affairs to make the best possible financial and commercial decisions, including selecting the right services. Regulations, such as PSD2 in Europe, are also bringing the concept of open banking to the fore by forcing banks to share transactional data with third-party providers. But, notwithstanding the threat from third parties, banks see the potential: in the most recent Temenos [annual banking survey](#), 69% of respondents saw open banking as much more of an opportunity than a threat.

Temenos solutions support banks' open banking strategies in three important ways.

Firstly, Temenos' technology, particularly the Interaction framework, plays a big role in helping banks to manage their API strategy to leverage a partner ecosystem and the innovation available to them. In addition, Temenos

Model Banks, our pre-configured localised and specialised versions of our solutions, include standard APIs used across the Temenos customer base as well as an API Designer for banks and third-parties to develop and extend APIs.

Secondly, Temenos has opened [its own MarketPlace](#), which offers our community of over 2,000 banking customers access to the most innovative products and services, pre-integrated and ready to deploy.

Thirdly, Temenos offers an extensible product catalog, catering for own-labelled as well as third-party products. Products can be collected to form marketing catalogues which bring together the products and services that are relevant to specific customers. Due to the integrated nature of the Temenos solution, these products, along with third party products are available to Product Origination and the Digital Engagement Platform, so any product – own-labelled or third-party can be originated over any channel to any customer any time.



6. Cost efficient, low operational risk

Very high levels of integration and automation coupled with an open architecture also lead to very high cost efficiency. This is because banks can operate with much lower levels of back-office and IT staffing as well as consolidate hardware and maintenance. In addition, the open architecture allows the Temenos solutions to be easily integrated (code-free) with the rest of the bank's IT estate and APIs allow for easy sharing of information and business events. All in all, these are the reasons why banks running Temenos Suites operate with dramatically better cost efficiency (on average, an 8.6 percentage point lower cost to income ratio compared to peers) and why Temenos customers are able to redirect money away from running the bank towards changing the bank. On average, Temenos customers spend 44% of IT costs on maintenance compared to the 80% spend by banks in general.

Running Temenos Suites also translates into much lower operational risks. In a legacy landscape, with manual hand-offs and re-keying of information in different systems, the risk of processing errors is high. Furthermore, multiple interfaces introduce multiple points of failure, compounded when transactions are queued up all day to

be processed in batch. To evidence this, we could point to the many recent instances of high-profile outages with associated reputational damage recently. However, with the Temenos Suites, the high levels of integration and automation together with real-time processing minimize operational risks.





7. Always up-to-date, no risk of technology obsolescence

All Temenos' clients run on packaged, upgradable software and have done for 20 years. This mission applies as much to the software used for managing customer interactions across digital channels as it does for back-office processing or sales and distribution in the front office. Banks over the years have built up a patchwork of interconnected but not seamlessly integrated applications to manage their record-keeping, processing accounting and CRM. This led to latency, data duplication, high risk of failure – as well as massive maintenance bills. Banks have started to unpick this mess, but they should be very wary about creating the same problems in the front office by buying different systems for different

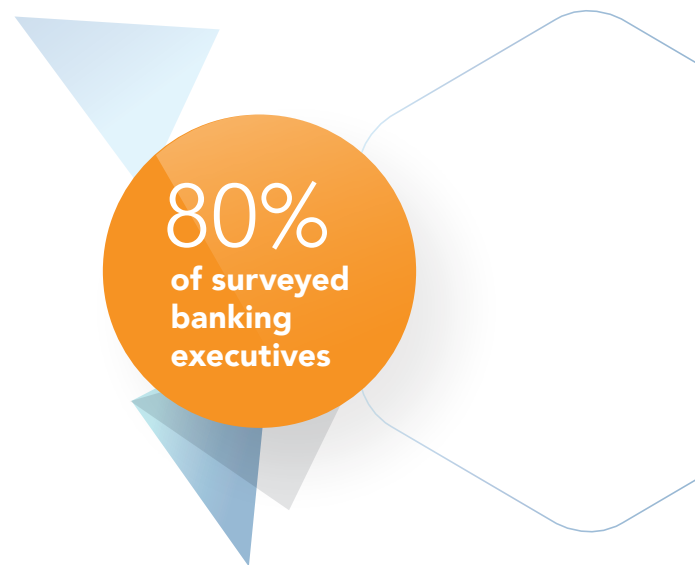
channels, for analytics, for processing, etc. So a packaged approach should be taken for both front and back office applications. And since innovation cycles in the front office and channels are faster than in the back office, upgradability is even more important for front office and channel solutions.

What is more, with fast and differing innovation cycles, it essential not just that all product are upgradable, but that they are upgradable independently of each other. Temenos open architecture allows for partial upgrades.



8. Fast time to market for change and new products

Of 65 senior banking executives [surveyed by Ovum](#) in Europe, 80% said outdated core banking systems were causing them to struggle to bring new products to market quickly, while 75% felt that existing systems do not support regulatory change. Legacy systems are typically not parameter-driven, taking months of coding and testing to launch new products or to extend the product or service range to accommodate customers' particular needs. With the Temenos Suites, new products – personalized to individual customer needs (see earlier) – can be brought to market in minutes since the solution is so easily to configure as since it uses a system of inheritance to allow product properties to be easily constructed. Furthermore, the Suites are extremely easy to update for all sorts of changes, such as regulatory updates. Banks can typically make these changes by themselves with minimal testing requirements, dramatically improving the time to make changes and reducing the costs and risks associated; another reason Temenos clients operate with a run-the-bank ratio of below 50% of IT expenditure.



consider **outdated core banking systems** to hinder the quick launch of new products to market



9. Scalable

The workload being placed on systems is rising exponentially. This is because, as banking dematerialises and moves online, the transactional volumes are increasing as micropayments and instant payments are becoming the norm. In addition, since people can access their information easily and over any device, the look to book ratio (the ratio of enquiries to transactions) is exploding. Hence, scalability is key. In the next 10 years banks need to plan for 100-fold increase in the number of transactions and enquiries handled by their banking platforms.

The Temenos core banking has been engineered to be linearly scalable. As a result, it can handle massive volumes of transactions. In a recent benchmarking exercise with a large European bank, the platform was able to handle over 12,000 retail banking transactions per second with an average response time of under 100 milliseconds on a superbly cost efficient, commoditised and open architecture infrastructure stack.

To ensure that the front office platform is able to scale to the same extent, Temenos uses an asynchronous order flow. We use this event-based asynchronous integration architecture for three reasons. Firstly, for scalability: all interactions are recorded and confirmed before being sent to the core banking system, meaning that there is never any delay in the capturing of orders. Secondly, because in the world of open banking (see later), banks will be taking orders for third-party as well as own-labelled products, meaning that some orders are executed outside of the platform. Lastly, because it removes friction by allowing your bank to send an instant confirmation to customers of the service they have requested as well as an update when the service is complete.



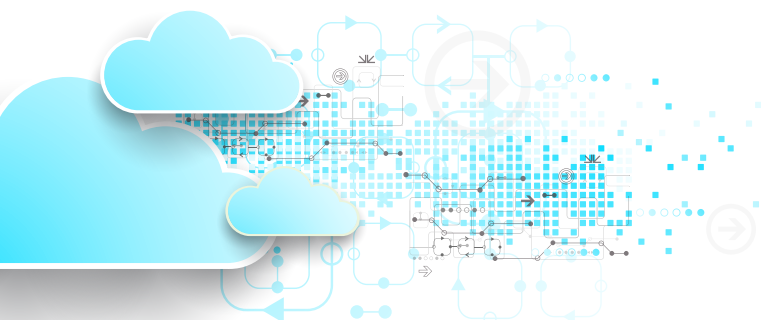
10. Cloud enabled

Temenos has developed its products to ensure they run natively on the cloud which they already do today. Not all institutions are ready to run core processing in the public cloud today. However, we believe such a move will be necessary if banks are to 1) drive transaction processing costs to their lowest possible level (operating costs can be [as much as 50% lower](#) compared to an on-premise installation) 2) have the scalability and agility

to cope with ever-rising levels of digital transactions and interactions and 3) raise security standards further (since the datacentre providers can invest significantly more to protect against cyber and other security risks).

The situation is already changing. In Temenos' [annual banking survey](#), we have seen a marked change in banks' readiness to put core applications in the cloud and much of this related to a change in regulators' attitudes. In the UK, for example, the FCA believes that greater use of cloud technology, by lowering upfront IT costs (which typically account for two-thirds of a start-up's initial costs), will promote competition and choice in the UK market. For others, like the Dutch government, the cloud operators have made concessions, such as around audit rights, which have left them feeling more comfortable about widespread usage. Also, the Monetary Agency of Singapore has released [new guidelines](#) for the use of cloud services.

Whenever banks are ready to make the move, they'll find that our solutions have already been optimized for cloud deployment and this can significantly enhance the already massive benefits of running Temenos software on-premise.



Guiding you through migration

As mentioned previously, many banks consider core renewal as a foundational step to digitization – the reason why 80% of banks are reportedly looking to replace their core systems in the next five years. But with core banking systems being 100% mission critical, there is still hesitation to initiate the change.

Temenos takes more customers live on its software than any other vendor of mission critical banking systems. In the last 12 months, Temenos took live 148 customers on our solutions.

With our network of Services partners who provide exceptional value added consulting and systems integration capabilities, Temenos banking software projects are delivered end-to-end, on time, on budget and to specification. Temenos' service partner consultants, are trained on Temenos products and certified in our Temenos Certified Consultant Program (TCCP) exams.

There are several progressive renovation options available to banks on their digital journey

The first option is to implement the Temenos Suites in stages. Examples abound of customers who implement the Temenos Suites but start by only going live with the channels and front office capabilities, banks such as Banque International de Luxembourg. In such examples, the front office capabilities interface with the banks' existing legacy core banking system, so that they become operational quickly and the banks can prove the business case. However, for the reasons already stated, such as lack of instant fulfilment and poor analytics, this situation is unsustainable and so we move to replace middle and back office functions over time.

The converse also happens, with examples such as Julius Baer, where the banks replace their middle and back office systems first. The rationale can be manifold, such as too high operational risk and too slow time to make. In such cases, the Temenos Suites for a temporary of time connect to the banks existing front office and channels solutions. Over time, in order to deliver the instant fulfilment couple with fully contextualized analytics, the banks then go live on the rest of the Temenos Suites.

The other approach, which is gaining in popularity, is to create a new bank. This new bank is built to be truly digitally native, using the Temenos Suites (normally running in the cloud) and with new processes and new branding. The offering tends to be small to begin with – savings, deposits – but grows over time. And the bank takes the opportunities to move more and more business from its other franchises to this new bank. We call this "build and migrate".

Whatever choice the bank makes, the point is that the historical problems of long projects that are slow to deliver value, cost more than budgeted, introduce too much risk and ultimately fail to deliver on expectations are gone. Temenos and its partners now progressively modernize banks' IT estates to maximize return and minimize risk.



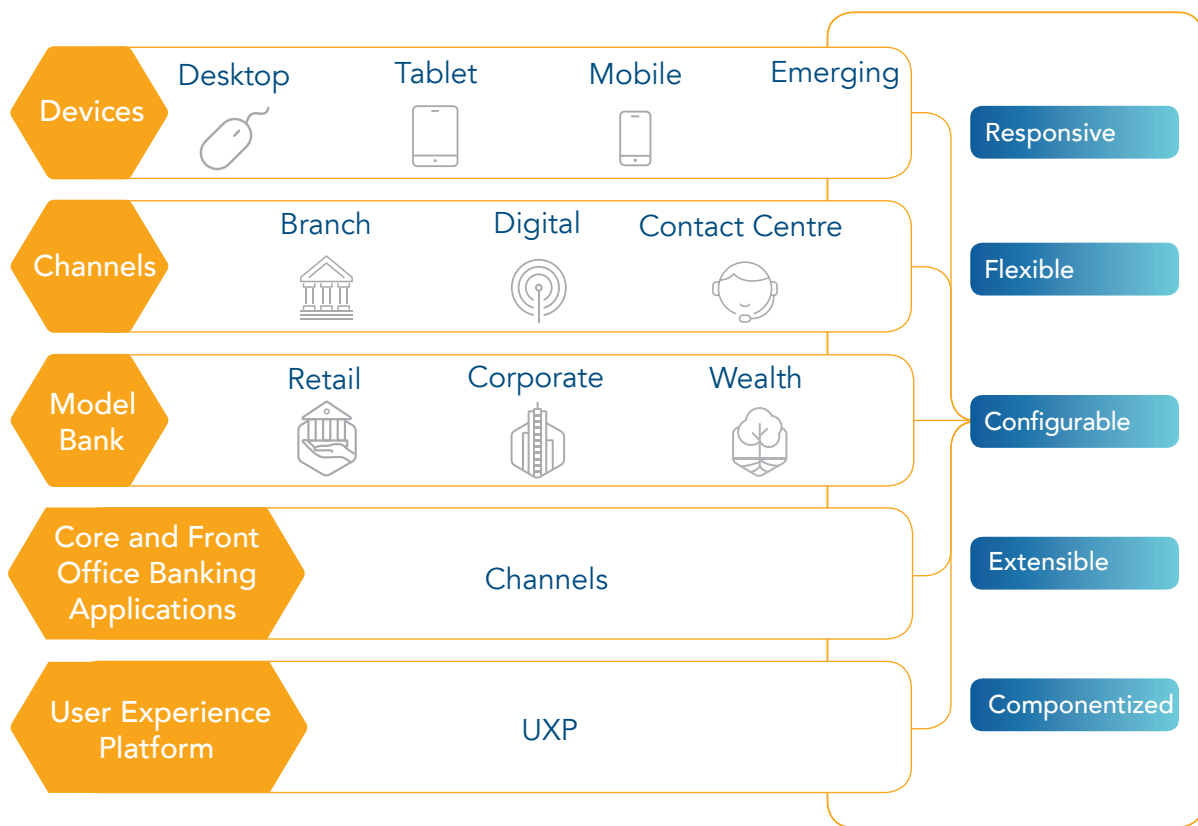
Key constituents of the digital solution

Channels

Temenos' Channels solutions enable banks to deliver products and services for any business line, across all self-service and assisted channels, for both bank staff and customers, in any language and optimized for any device. Channels supports branch transformation as branches look to become more digital, with self-service kiosks and

digitally equipped financial advisors. Contact centres will be able to leverage digital technologies such as social media, video, chat-bots and instant messenger as emerging channels for providing customer service and support, all from a single platform.

Temenos Channels include:



Reduce maintenance costs of channel applications by up to 85%

“The User-Experience Platform generates 60% savings on user-interface (UI) development costs on first project, rising to 95% on subsequent projects, and reduces the time-to-market for UIs by up to 4x.”



UXP

Temenos' Channels solutions are built on our mature, proven UXP, a single, consistent User Experience Platform (UXP) which can be upgraded and enhanced without impacting any backend business processes. Temenos' UXP is the only UXP in the market which lets financial institutions intuitively create and manage web & mobile apps and content with a single toolset & skillset. Banks can build once and deploy easily across all channels/devices. Temenos' UXP has been distinguished as a [Market Leader](#) in Ovum's reference guide, the Ovum Decision Matrix (ODM): Selecting a Digital Banking Platform, 2017-18.

The UXP, which can be used to create & run other apps beyond Temenos, has a solid future roadmap, so is always at the forefront of development and innovation in UX and digital technologies.

Temenos' UXP includes a Content Management System ("CMS") that enables a bank to provide finely-tailored and highly-relevant content to their web and mobile banking customers. It enables increased sales, responsiveness, security, efficiency and productivity.

UXP Provides

- ▶ Accelerated speed to market of new products and services by up to 4 times
- ▶ Use of components to provide maximum business reuse and business agility
- ▶ Potential to be the enterprise-wide single platform underpinning all of the bank's channel solutions
- ▶ Seamless integration to Core Banking with open integration to 3rd party systems
- ▶ Maximum flexibility and agility to respond to market opportunities and changing conditions, by being highly customizable and configurable
- ▶ Future-proofing through ability to embrace new innovative technologies and devices
- ▶ Low total cost of ownership and reduced maintenance costs by up to 85%

Analytics

Analytics enables banks to harness the wealth of data they have and transform it into valuable business intelligence, to support better decision making across the enterprise and to enrich all interaction with your customers.

By using banking specific, high-value, analytical applications in every department including Finance, Marketing, Operations, Treasury, and Risk Management, banks will be able to transform into being analytically driven. This provides a significant competitive edge in the digital world.

Analytics allows you to:

- ▶ Empower business users
- ▶ Gain deep customer insight
- ▶ Embed intelligent analytics into your core system
- ▶ Integrate real-time data
- ▶ Provide customers with contextual, relevant product offers and advice
- ▶ Integrate analytical capabilities
- ▶ Better understand and predict performance
- ▶ Improve ROA

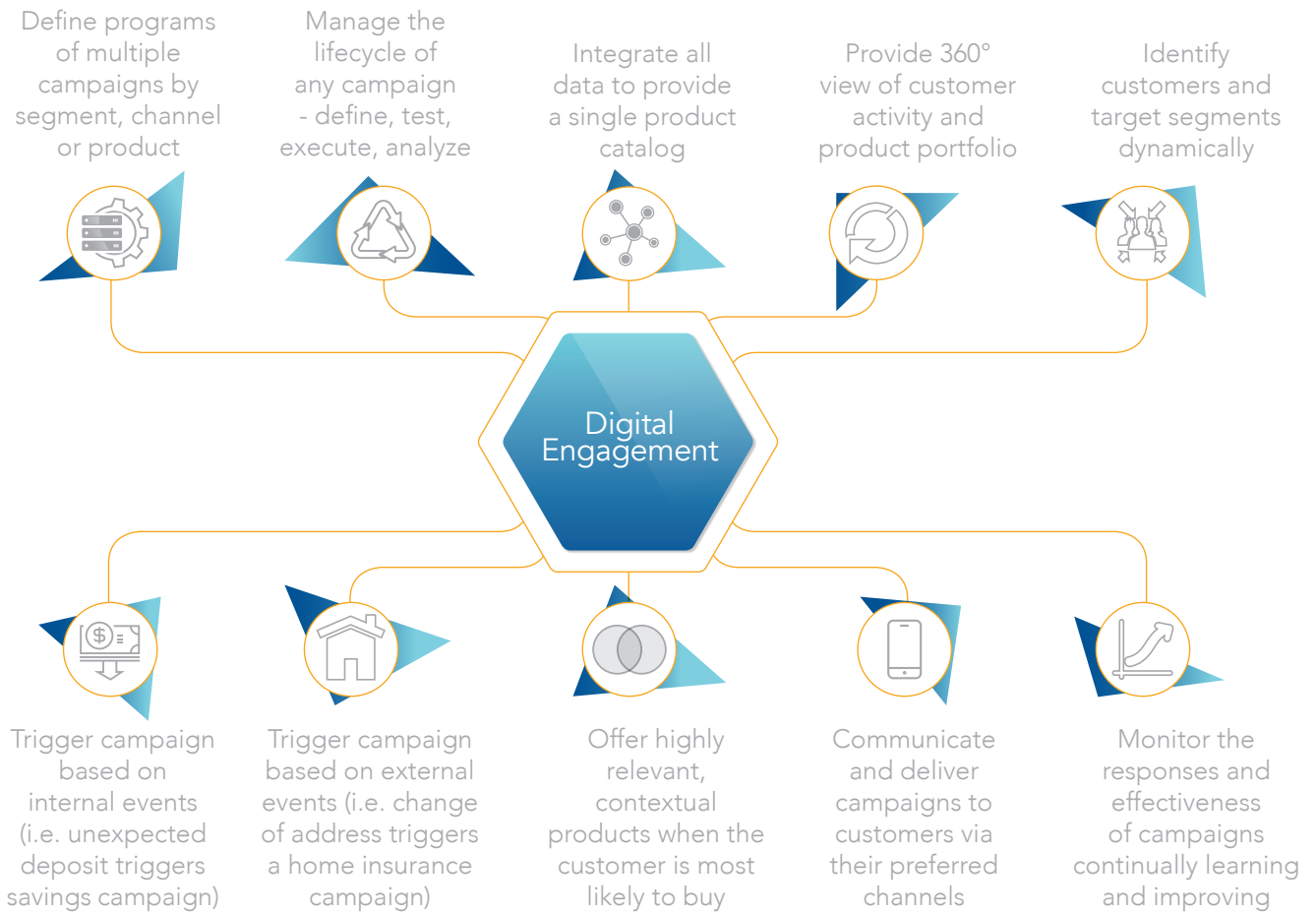


Front Office

Front Office is designed to support the daily interactions and long-term relationships that banks have with retail, corporate, mass affluent and U/HNW customers. It integrates seamlessly with both back office data, extensible product engine and digital and self-service channels, to provide a consistent customer experience.

It is completely compatible with existing banking systems, enabling you to deploy and control a flexible range of multi-channel, next generation marketing and banking services for your customers – efficiently, securely, cost effectively and profitably.

Digitally enabled, experience driven banking



Temenos Digital Engagement is a powerful and comprehensive Front Office solution that enables banks to digitally engage with and empower customers by providing rich, compelling user experiences at every touchpoint.

A fundamental feature of Digital Engagement is its unified command centre – the idea of the 'SingleBrain', an intelligent decision-making platform unifying all channels and data sources. The SingleBrain enables a 360° view of all customer activity, monitors all internal and external events in real-time and consolidates product data to form a single product catalog.

The SingleBrain performs a cycle of processes, driven by analytical data, delivering rich insight on the customer profile, behaviour, lifestyle and preferences. It encompasses state of the art machine learning techniques, enabling it to continually improve the overall customer experience by ensuring campaign programs are relevant, engaging and ultimately effective.

Back Office

Temenos Back Office combines rich functionality with cutting-edge technology that allows for easy integration and virtually unlimited scalability, in turn enabling banks to significantly outperform their peers.

A modern core has an essential part to play in digital banking.

Our solution provides:

- ▶ **Real-time, complete customer information** – enabling financial institutions to offer their customers the right products at the right time
- ▶ **Product builder** – allowing for extremely quick time to market for new products, which are personalized to individual customers
- ▶ **Virtually unlimited scalability** – the solution runs on any software stack and is engineered to be linearly scalable, allowing customers to generate significant economies of scale
- ▶ **Redirect maintenance spending to innovation** - against the industry average of 78.8% of IT budgets being spent on maintenance, Temenos customers spend 44.3%
- ▶ **Boost profitability** - on average Temenos core banking customers have a 36% higher Return on Equity than banks running legacy software

Technology enabling digitization



Interaction technology

The Interaction Framework opens up the bank and its digital engagement capabilities to third-party user-interfaces, such as speech-driven apps and chat-bots, and also enables banks to leverage the vast array of devices which form the Internet of Things (21 billion connected devices by 2020).

Our Interaction offering enables you to easily build and maintain an outstanding digital customer experience that can evolve fast and cost-efficiently. It plays a big role in helping you manage your API strategy. APIs are the key to creating a seamless experience where the customer perceives all the data and service is being managed by you.

Interaction products enhance:

- ▶ **Innovation** - make your banking services readily available in a standard way to innovation partners and to any third-party user-interface (UI)
- ▶ **Flexibility** - easier to evolve UIs at a faster pace than underlying business systems
- ▶ **Cost-efficiency** - build your own UIs, enhance the re-usability of APIs and UIs that you create, and pre-empt data openness regulatory requirements

Integration technology

Integration provides agility by enabling fast and easy real-time integration with other business systems of importance to engagement.

Our Integration offering makes your bank more competitive and profitable. Most importantly, it enables you to offer a superior customer experience.

M-Shwari mobile bank are winners of Banking Technology's "Most Innovative Use of Technology" award 2014, and Celent's "Model Bank of the Year" award 2014.

Integration products enhance:

- ▶ **Agility** - the ability to integrate any business system up to 3x faster, without detailed, vendor-specific coding work, faster response to evolving business needs
- ▶ **Competitiveness** - the ability to provide multi-channel banking services in real-time 24/7
- ▶ **Profitability** - reduce the costs of performing and maintaining integration, and the ability to exploit Cloud-based applications
- ▶ **Scalability** - the ability to preserve the performance as business volumes grow
- ▶ **Reliability** - protects your bank from regulatory scrutiny and reputational damages

"Temenos' Integration Framework enabled us to go-live in 5 months when otherwise it would have taken three times longer. And because we were able to launch so quickly without any issues, we have massively exceeded our business case."

Eric Muriuki Njagi, General Manager, New Business Ventures, M-Shwari mobile bank
(10 million customers as of April 2015)

Data technology

Temenos' Data products provide banks with a unified data platform, helping them deal with the massive data volumes of the digital banking era by efficiently managing their data, unlocking and better accessing their data, and extracting value from their data.

It enables banks to strengthen customer-centricity and support business decisions even when the volume of business data is growing fast.

Within the digital offering it enhances;

- ▶ **Scalability** - the ability to efficiently process massive volumes of both transactions and reporting queries without increasing costs, preserving customer and business user experience as you scale
- ▶ **Productivity** - supports advanced near real-time reporting capabilities that provide business decision-makers with value-adding perspectives, and customers with fast responses to online queries
- ▶ **Competitiveness** - the ability to exploit your business analytics solution to its fullest capabilities with near real-time data

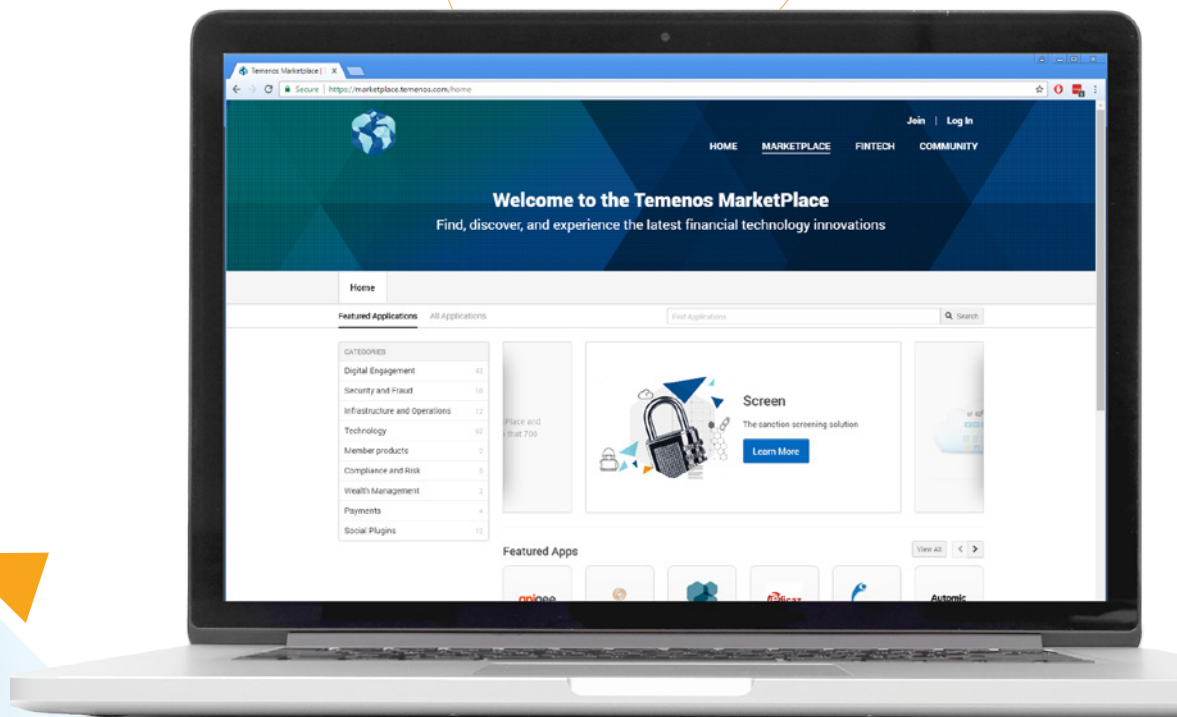
Temenos Marketplace

Developed as a self-service, online digital store with products available such as widgets, apps, integrations and solutions, Temenos MarketPlace provides a showcase platform for both Temenos and its wider community of Fintech providers.

MarketPlace allows financial institutions to:

- ▶ Experience the latest innovations in financial services technology through its ever-growing range of products
- ▶ Deploy them directly into their business solutions quickly and securely

By getting Fintech providers and financial institutions together MarketPlace helps you to differentiate from competitors and demonstrate innovation.



Summary

Each of the separate parts of our digital solution offer a unique set of benefits

However the sum total of these parts is a **comprehensive digital banking solution** providing unrivalled coverage, scalability, flexibility and efficiency.

It provides banks with everything they need to have right now – and sets a path for future development.

Temenos' digital roadmap

To continue to lead the market with its digital offering, Temenos has a significant investment planned for the future of our solution.

The digital roadmap is enhanced and validated by research, analysts, customer advisory boards, user experience testing and close competitor analysis.

Our UXP designers follow a user centred design approach to ensure the customer is always at the heart of our product development.



Benefits of becoming a digital bank with Temenos

Increase customer retention, wallet share and loyalty by delivering rich, highly relevant and targeted offers and advice when customers need it, where they need it and through their channel of choice.

Compelling and engaging **customer experience**

Increased loyalty and **advocacy**

Increased **cross and upselling**

Can **plug and play** with other services and platforms

Regular maintenance and **easy upgrades**

Inbuilt **cybersecurity**

Continuous **innovation**

Speed to market

Ecosystem for **Fintech collaboration**

Cloud deployment

Conclusion

Digitization represents a massive opportunity for banks to engineer a closer relationship with their customers, moving from a product provider to a virtual advisor. As such, digitization offers the potential to drive substantial improvements in banks' financial and operational performance. Benefits can include boosting revenues per customer by more than 50%, increasing customer penetration by more than 30% and reducing operating costs by up to 20%*. Nonetheless, the process of digitization remains far from finished.



Next steps

Find out more about how Temenos can enable your bank to become digital and enable you to provide experience driven banking to your customers.

Contact us at digital@temenos.com



tem.mn/allProds

products

marketplace.temenos.com

temenos.com



Temenos Group AG (SIX: TEMN), headquartered in Geneva, is a market leading software provider, partnering with banks and other financial institutions to transform their businesses and stay ahead of a changing marketplace. Over 2,000 firms across the globe, including 38 of the top 50 banks, rely on Temenos to process the daily transactions of more than 500 million banking customers. Temenos customers are proven to be more profitable than their peers: in the period 2008-2014, they enjoyed on average a 31% higher return on assets, a 36% higher return on equity and an 8.6 percentage point lower cost/income ratio than banks running legacy applications.

*) Boston Consulting Group

Analyst recognition

FORRESTER®



Forrester Global Banking Platform Pyramid since 2006



Leading Digital Platform - Temenos' digital banking platform designated "Market Leader" by OVUM (2016-17)



Best-selling core banking vendor in the IBS Annual Sales League table since 2012

XCELENT Awards



XCelent 2016 Award winner for Advanced Technology in Global Digital Platform report

FORRESTER®



Global Power Seller for new named deals in the 2015

Gartner



A leader in the Gartner 'Magic Quadrant for Global Retail Core Banking, 2016'

FORRESTER®



Leader in Forrester Wave 'Customer-centric Global Platform Deals 2016'



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