

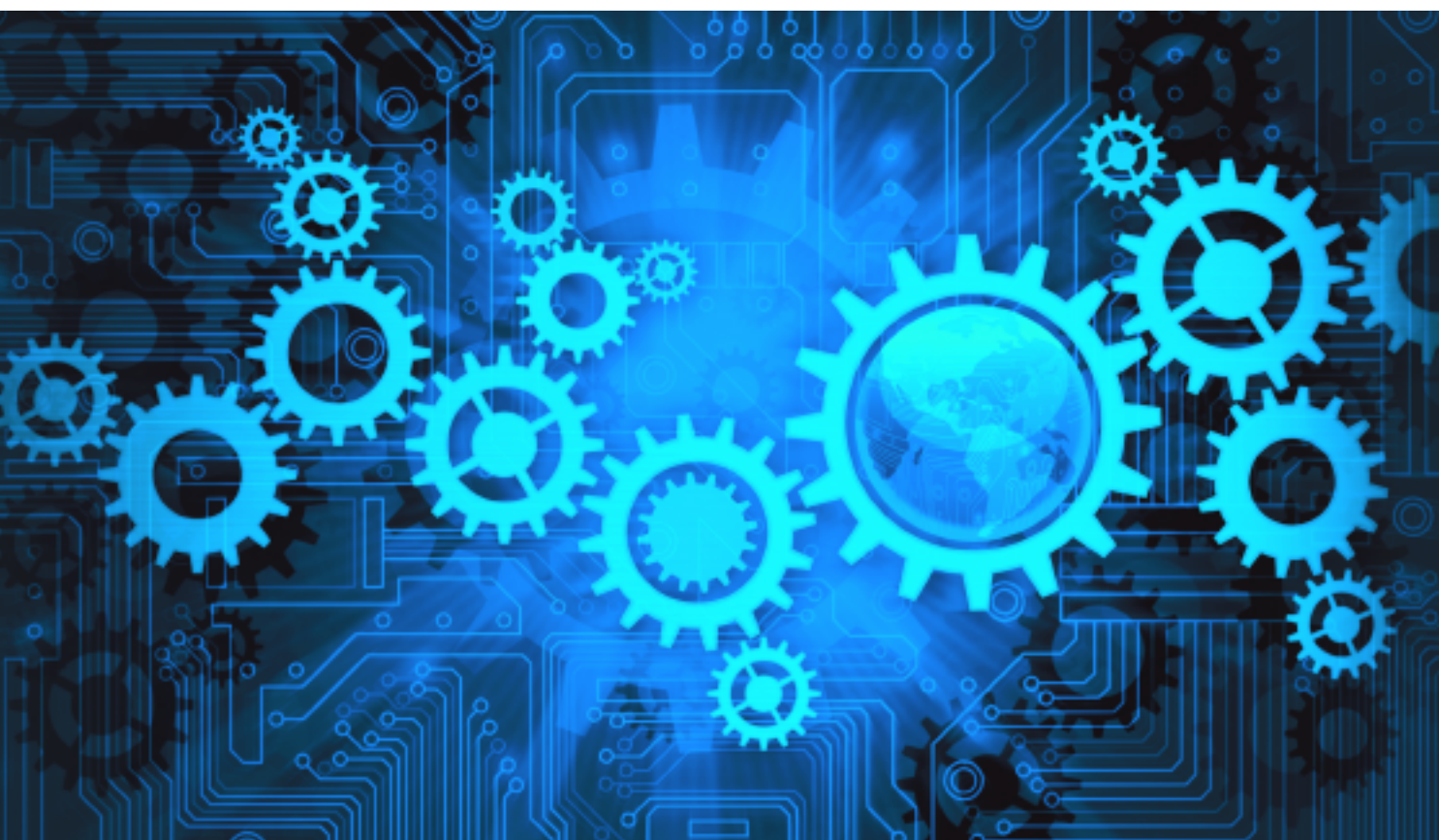


cash management

TMS

# A trip around the TMS

**WILL SPINNEY** EXPLAINS WHY TECHNOLOGY IS IRREVOCABLY COLONISING THE TREASURY DEPARTMENT, AND THE KEY ROLE PLAYED BY THE TREASURY MANAGEMENT SYSTEM.



For every treasurer and cash manager, technology is a growing part of their role, automating processes, performing sophisticated calculations and communicating with internal and external partners. Automation has been under way since the treasury profession was born and shows no sign of letting up. Automation in all countries where a company operates is probably the biggest current challenge but automation everywhere in the financial supply chain is still a major focus. This article looks at some of the opportunities which technology creates, including ways in which a treasury management system (TMS) might be used.

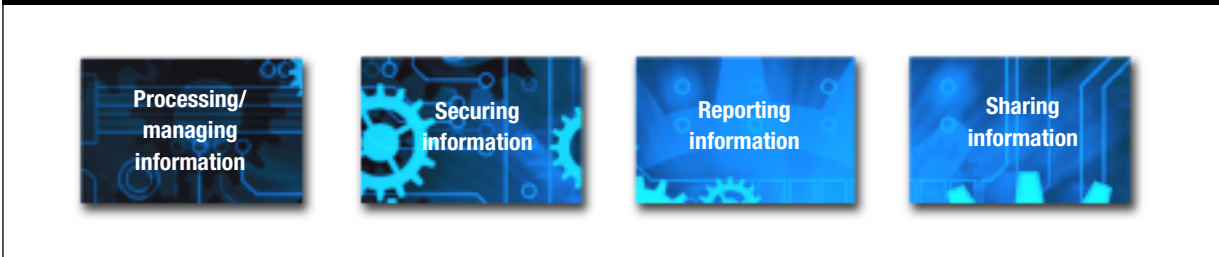
**ROLE OF TECHNOLOGY** Without exception, treasury technology is a tool to make the role of the treasury team easier by automating processes and providing greater control. In virtually all cases, technology facilitates four key areas for treasury (see Figure 1).

When considering the introduction of any type of technology, it is worth first working out exactly what its purpose is and which of the four functions it performs. If you can't see how it could help you in one or more of these areas, it probably has no value for you.

Treasury plays a major role in corporate finance and risk



**Figure 1: Role of technology**



management but a major function and support for these other roles is the significant day-to-day job of dealing and cash transaction processing. The effectiveness of transaction processing is usually determined by the degree to which it facilitates straight-through processing (STP), which is the efficient, secure, instantaneous flow of information:

- within a system;
- within systems within a department;
- with other internal systems;
- with other parts of the business; and
- with external parties.

**SYSTEMS USED IN TREASURY** It is not uncommon for spreadsheets to be used for activities such as forecasting. For broader treasury applications, however, treasurers rely on more sophisticated systems. This is supported by the 2008 survey by consultancy Treasury Strategies, which found that 50% of European treasurers use a specialist treasury system (such as IT2 or Wall Street Systems) to manage at least some of their operations (see Figure 2). A further 27% used the treasury module of an enterprise resource planning (ERP) system such as Oracle or SAP.

Similarly, in its survey of US corporate treasurers, Treasury Strategies found that 67% of middle market companies and 92% of large corporates use some type of treasury system. Not surprisingly, it found that use of technology increases with company size. The results are shown in Figure 3.

In many instances, corporate treasury systems are linked to the accounting general ledger and to electronic banking systems. There has been a significant increase in the proportion of systems that link to market price feeds and electronic confirmation exchanges, and this trend is expected to continue.

The demand for systems in treasury has developed to keep pace as the scope of treasury has expanded and the function continues to move towards centralisation. Today, companies need systems that:

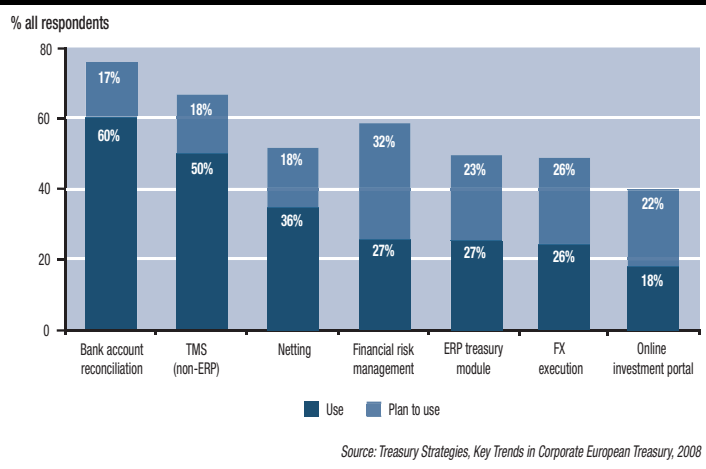
- can handle multiple legal entities and currencies;
- allow users in different locations to have access;
- can run functions such as an in-house bank and a netting centre;
- produce the reporting required in compliance with regulations in different countries; and
- can integrate with shared service centres, automated accounts receivable and accounts payable processing functions to feed the forecasting system.

While the basics of cash management remain the same, the

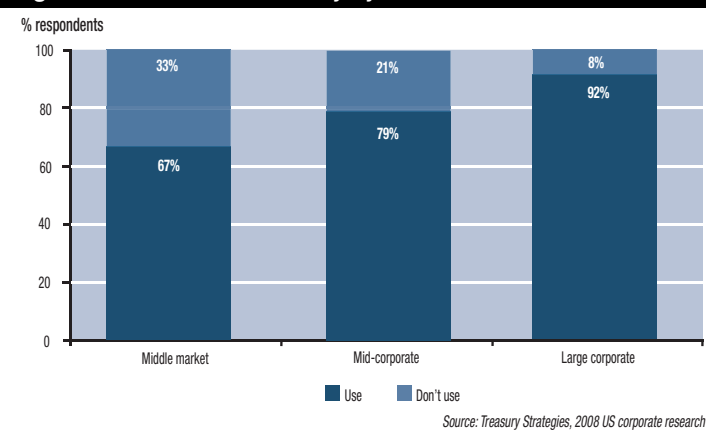
need is for integration on a broad scale and, increasingly, on a real-time basis.

**TYPES OF SYSTEM** The major purpose of using systems in treasury is to automate as much of the function as possible. In an increasingly complex world it is almost impossible to keep positions, track exposure and comply with reporting requirements in a manual environment. Most treasuries access a variety of systems in some way, either those they use themselves or those they use to supply or obtain information. Figure 4 shows some typical systems.

**Figure 2: Types of treasury system used in Europe**



**Figure 3: The use of treasury systems in the US**





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## TMS

**THE ROLE OF THE TMS** At the heart of most corporate treasury technology infrastructures is the treasury management system, known sometimes as a TWS (treasury workstation) in the US.

A treasury management system can be a major investment

for a treasury both financially and in the time required to implement and continuously manage the system. This often requires the development of specific expertise within treasury. Arguably, these skills are not core treasury and a treasury's operations may seem too small or straightforward

TMS functionality	
<b>Cash management</b>	<ul style="list-style-type: none"> <li>■ Interface to electronic balance reporting (EBR) system</li> <li>■ Automatic/manual bank account reconciliation</li> <li>■ Cash positioning</li> <li>■ Zero balancing, cash pooling, account transfers</li> <li>■ Interest calculation and allocation</li> <li>■ Production of payment files for interface to EFT systems</li> <li>■ In-house banking, including web interface to business units (which may include other netting, forecasting and reporting functionality*)</li> <li>■ Netting*</li> <li>■ Cashflow forecasting</li> <li>■ Interface to/from other internal systems for cash management purposes</li> </ul>
<b>Transaction management</b>	<ul style="list-style-type: none"> <li>■ Interface to dealing system</li> <li>■ Deal input</li> <li>■ Approvals</li> <li>■ Settlement management</li> <li>■ Confirmation production</li> <li>■ Interface to confirmation matching system</li> <li>■ Manual confirmation matching</li> </ul>
<b>Deal types</b>	<ul style="list-style-type: none"> <li>■ Short-term money market (eg. term deposits, loans, commercial paper, CDs, repos*)</li> <li>■ Long-term money market (eg. fixed and floating rate deposits, loans, including flexible repayment schedules)</li> <li>■ Securities (eg. bonds, floating rate notes, medium-term notes, etc.)</li> <li>■ Interest rate derivatives (eg. swaps, forward rate agreements)</li> <li>■ Foreign exchange (eg. spot, forward, swaps)</li> <li>■ Foreign exchange derivatives (eg. vanilla and exotic options*)</li> <li>■ Exchange-traded futures and options*</li> <li>■ Equities*</li> <li>■ Commodities*</li> <li>■ Credit default swaps*</li> <li>■ Structured products*</li> </ul>
<b>Limits</b>	<ul style="list-style-type: none"> <li>■ Counterparty credit limits (eg. exposure limits). Different systems provide various calculation methods for these. Some systems also include other limits such as deal and settlement limits.</li> </ul>
<b>Risk management</b>	<ul style="list-style-type: none"> <li>■ Mark-to-market revaluations</li> <li>■ Sensitivity analysis</li> <li>■ Scenario analysis</li> <li>■ Value at risk*</li> <li>■ Risk management functionality can differ substantially across systems, depending on their level of complexity and specialist functions</li> </ul>
<b>Accounting</b>	<ul style="list-style-type: none"> <li>■ Automatic production of accounting entries for treasury transactions</li> <li>■ Accruals</li> <li>■ Revaluations, including hedge accounting</li> <li>■ Production of balance sheet/P&amp;L reporting</li> <li>■ Interface to accounting/ERP systems</li> </ul>
<b>Security and control</b>	<ul style="list-style-type: none"> <li>■ Workflow management</li> <li>■ Audit trail</li> <li>■ User rights</li> </ul>

*\* Items marked with an asterisk are typically provided by the more sophisticated systems*



to justify such an investment. However, a TMS (of different scales, costs and complexity) or the treasury module of an ERP is essential to virtually every treasury, as opposed to relying on spreadsheets or generic database input/query tools, for the following reasons.

■ **Specialist functionality.** First, the functionality which treasury requires is specialist in nature, such as recording and managing the information needed for each type of transaction, providing the relevant calculations for analysis and reporting, integrating with other systems within and outside treasury, and allowing appropriate controls to be defined. In the past, companies sometimes developed their own system (the bespoke route) rather than license a system from a third-party software house, although this is rarely the case today.

■ **Workflow controls.** A TMS enables treasury to define controls over the workflow of each transaction. Such controls can include what approvals are required and who is authorised to approve transactions of different sizes, the confirmations and other documentation that should be produced, and which settlement instructions/counterparty settlement instructions should be used.

■ **Definition of user rights.** A TMS allows the company's system administrator to define the tasks which each user is permitted to undertake. This is an important feature in ensuring segregation of duties, a key treasury control.

■ **Audit trail.** The lack of a history, or tracking, in spreadsheet solutions is a key weakness and corrected in a TMS by means of an audit trail. The TMS tracks each user's activities and marks each action with the user who performed it, the date and time. Most systems will also provide information on earlier versions of transactions or other data before amendments were made.

■ **Reporting tools.** Some of the reporting which treasury produces can be highly complex and require specialist calculations. Reporting produced within treasury needs to be:

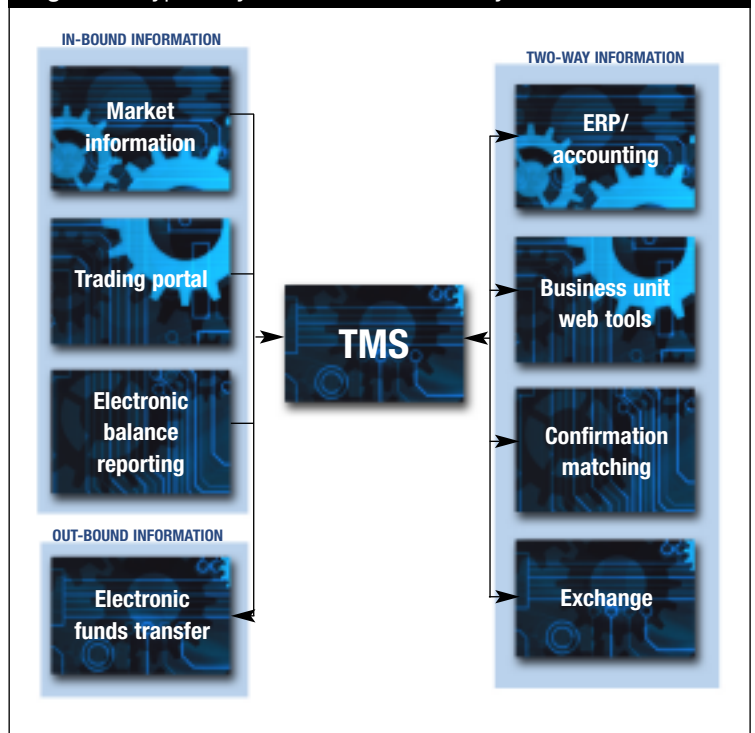
■ **transparent:** the origins, premises and calculations need to be clear and reconcilable;

■ **configurable:** the reporting needs will change as the business evolves; and

■ **repeatable:** once a report template has been set up, the results produced each time it is run should be reliable.

■ **Accounting support.** Accounting for even the most basic of treasury transactions is now complex for any enterprise reporting under International Financial Reporting Standards (IFRS). For example, for many deposit and borrowing instruments, straight-line accruals are no longer permitted, and instead interest is accrued on a compounding periodic ("amortising cost") basis. At period ends instruments have to be routinely revalued both in their own right (marked to market) and as translated into the reporting currency, and revaluation entries calculated and passed to the correct part of the balance sheet and profit and loss or equity. The requirements for hedge accounting treatment are particularly onerous. Unless the volume of transactions is negligible, a manual approach to accounting is likely to be time-consuming and inaccurate; by contrast, an integrated systems approach is cheap, effective, rigorous, replicable and auditable once it has been set up.

**Figure 4: Typical systems used in treasury**



■ **Why are these things important?**

■ The amounts of money handled by treasury are always substantial relative to the size of the business, even in the smallest or most straightforward of treasuries. The potential cost of even a relatively minor incident of error or fraud can be enormous.

■ Treasury is central to the company's achievement of its strategic objectives by financing investment and acquisition, structuring debt, etc. It cannot deliver on these objectives without reliable information on which decisions can be based.

■ Corporate governance has become a focal point for every treasurer, particularly companies which report under Sarbanes-Oxley in the US. This necessitates rigorous operational controls, which are difficult to implement without specialist technology.

**TMS FUNCTIONALITY** Functionality provided by treasury management systems can differ substantially depending on the design and target customer base of the TMS. Some, for example, will provide relatively basic cash and transaction management capabilities whereas more sophisticated systems will cater for a wider range of instruments and provide a wider range of reporting and risk management tools. The table opposite highlights examples of functionality provided by most TMS providers.

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*In the next issue of Cash Management, Will Spinney will explain how a TMS works.*