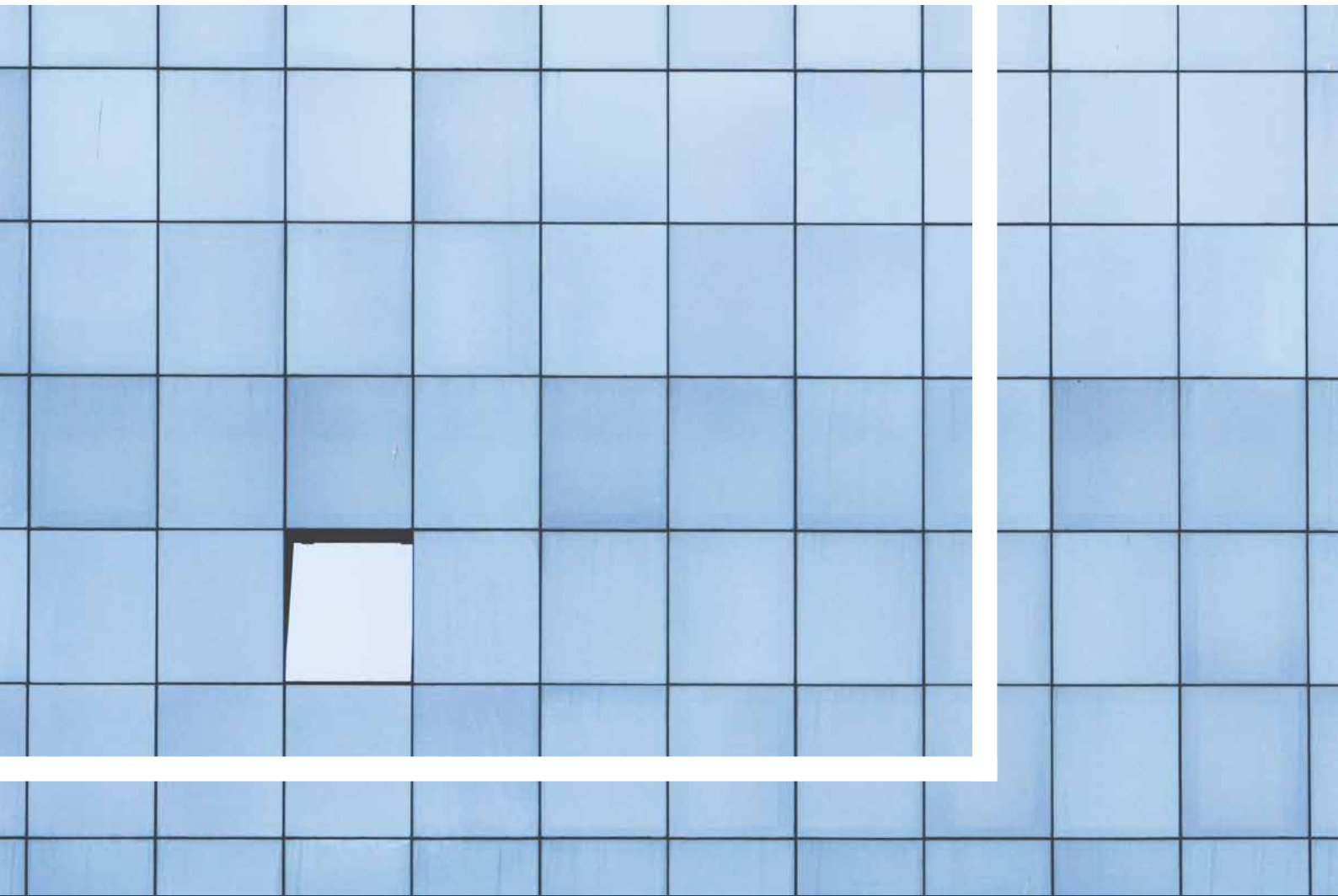


# Demystifying standardization with SAP S/4HANA





# Defining standardization

Today's business transformations are driven by a variety of factors – but ultimately the objective is to ensure that the future IT landscape supports the business in the most efficient and effective manner to maximize its value. To achieve this, most ERP transformation programs strive for a high degree of “standardization”. But what is really meant by standardization and how best can high levels of standardization in business processes be benchmarked, improved and sustained?

## Standardization in industry

Standardization in the context of industry and technology has been defined by experts<sup>1</sup> as the process of developing and implementing specifications based on the consensus views of firms, users, interest groups and government. Standardization helps to ensure compatibility, interoperability, safety, repeatability and/or quality, with the aim to unify certain practices within a industry and reduce the number of variants. For these reasons, standardization is used comprehensively across industries in business, engineering and technical fields. Typical targets of standardization efforts include component parts, manufacturing processes, units of measures, and goods and services.

## Standardization from an ERP perspective

Given the important role of standardization for unifying and reducing variants, it is clear that it should be a major consideration of any business transformation. Typically standardization from an ERP perspective means reducing the number of process variants, harmonizing processes across the company and reviewing and replacing custom programs with standard software functionalities, while balancing the established competitive advantage of the business.

Many businesses – both with existing SAP ERP systems and without – are looking now at the potential of S/4HANA as the core of the future ERP landscape, and standardization is expected to be an important driver of the achievable business value. The expected benefits of increased standardization typically focus on reduced operational costs (process improvements and asset effectiveness) and IT costs (reduced maintenance and support costs, legacy system decommissioning, simplified and reduced customization). Other benefits, often more difficult to quantify but potentially much greater and strategically important, include increased levels of quality and enablement of digital business models to grow market share and profits.

The challenge usually comes in defining how those expectations will be met and getting alignment across the business.

<sup>1</sup> Technovation, 48, pp. 69-78, 2016, XIE, Z., HALL, J., MCCARTHY, I. P., SKITMORE, M. AND SHEN, L.  
Standardization efforts: The relationship between knowledge dimensions, search processes and innovation outcomes.



# Why companies struggle with standardization

The main reasons companies typically struggle with standardization in an S/4 transformation project tend to center around a lack of stakeholder alignment. Bringing together conflicting interests from business, financial, IT and organizational perspectives is difficult for several reasons: the large set of stakeholders, resistance of powerful business units, lack of clarity on a business case and the inherent complexities involved in large change.

## **Complexity to build a common ground**

An S/4HANA transformation involves a large and varied set of stakeholders, ranging from the functional business streams to IT leadership and organizational and change management. Furthermore, there is often a gap between executive management expectations and the perceived realities of regional and site management. The resulting complexity can make it difficult to find common ground and define a commonly accepted strategy and approach for standardizing a company's business processes.

## **Resistance to change**

From a business or functional perspective, challenges to standardization tend to arise from their familiarity with historical own developments and the perception of competitive advantages gained from them, e.g.:

- The existing process variants are required for competitive advantage and therefore cannot be brought to SAP standard processes
- Benchmarks do not exist or are not relevant to prove the standard process and demonstrate increased value
- Insufficient knowledge of SAP Standard or lack of clarity on SAP Roadmap to cover specific aspects of the business processes executed via non-standard mechanisms (custom development, add-ons or interfaces)

## **Lack of support for business case**

It is additionally challenging to identify, quantify and get broad support for the financial benefits of standardization in terms of cost reduction and savings. Business benefits of standardization are often challenged as intangible and non-transparent, as there is no monitoring system to measure the effect on process performance.

Moreover, the business case can be perceived as ignoring the sunk costs from previous investment in custom development.

## **Inability to manage and govern change**

As with any major business transformation, change management for an S/4 program is a large and critical effort. In that respect, it is often a target for resistance from across the organization when it comes to defining standardization targets.

If change management and training are not able to account for the aforementioned resistance to new processes and ways of working, as well as ensuring governance and decision making around a consistent organization-wide understanding of standardization, those standardization efforts will fail.

Finally, resistance will be magnified by uncertainty around potential changing job descriptions or a threat of decreasing influence due to reduced responsibilities and staff.

# Standardization in focus from the start

Indeed, efforts to drive standardization in an S/4HANA business transformation program face a number of challenges. However, these can be overcome with the right comprehensive approach, including a focus on standardization from the start.

## Taking a comprehensive approach to driving standardization

Key elements of an effective approach involve measuring and baselining the current level of standardization in select E2E business processes e.g. Order-to-Cash, Source-to-Pay or Record-to-Report, evaluating the degree of standardization potential per business process, function and site through Fit-to-Standard workshops, and accordingly defining the target process model, business case and roadmap for transformation with standardization as a key objective.

## Baseline as-is standardization level

As part of the as-is analysis, standardization is examined from both the business process and technical perspective. The starting point of the business transformation is a profound analysis of the as-is situation by leveraging tools for process mining and custom code analysis.

Through process analytics and process mining, it is possible to measure the degree of business process standardization in terms of process variants, non-standard process flows, degree of automation, redundant flows and inefficient process breaks. Data-driven process analytics helps to get an actual status quo of process (non-) standardization, which is often missing in years-old process documentation.

Experience with global clients across various industries has been incorporated into a heat map illustrating the degree of achieved standardization per functional area. From a cross-industry sample set, a number of interesting patterns have been established:

- High degree of standardization in Finance and Controlling, often driven by compliance and reporting standards e.g. IFRS
- High degree of standardization in Procurement with some sectors such as automotive and retail catching up with legacy modernization initiatives
- Medium degree of standardization in sales due to differentiating factors, and varying sales set ups and taxation policies in different countries and regions. However, an upward trend is seen where companies are investing, e.g. in global pricing set up. Omnichannel and eCommerce business models add to the complexity in sales standardization where new paradigms for multichannel commerce are fast emerging.
- Retail and CPG have a more standard set up in Planning compared to other industries
- Medium to low standardization in production and logistics, often due to dependencies on specific legacy tools and integrations. A push to higher levels of standardization is foreseen, with digital initiatives being undertaken in these areas

Furthermore, there is evidence that the degree of standardization was also greatly influenced by the degree of template governance and key architectural and design decisions taken in the last two decades. A company's size and the complexity of its business model was also an influencing factor on the degree of standardization, though not a limitation.

## Standardization Heatmap

Industry Major	Automotive	Consumer Packaged Goods	Energy	Industrial	Pharma	Retail
Finance	High	High	High	High	High	High
Controlling	High	High	High	High	High	High
Procurement	High	High	High	High	High	High
Order to Cash	High	High	High	High	High	High
Planning	Medium	High	Low	Medium	Medium	High
Production	Medium	High	High	High	High	N/A
Quality Management	Medium	High	Medium	High	High	N/A
Logistics, Warehouse Management	Medium	High	Medium	High	High	N/A

**Standardization Level**    High    Medium    Low    Very Low    N/A

# Tool-based back-to-standard & S/4 conversion analysis

## Evaluate the standardization potential

Most SAP customers running on ECC have extended the SAP standard with customer-specific developments. Custom code analysis provides a view on usage, potential for back-to-standard or retirement and an assessment of the business reasons to persist with select custom coding, as well as S/4 and HANA compatibility, performance impact and general code quality.

Benchmarks derived by PwC partners smartShift Technologies from hundreds of custom code analyses of large SAP installations worldwide uncovers a system with, on average:

- >30.000 custom objects
- >3 million normalized lines of code
- >500 Clones of SAP standard objects
- 40–60% retirement potential for unused code, based on system usage statistics

PwC's Smart Greenfield approach leverages smartShift's Intelligent Automation platform to:

- Scope, identify and migrate technical bills of materials (TBOMs) based on business processes to be retained
- Aggressively clean-up unused code and establish a secure Back-up/Restore process
- Perform automated conversion of custom objects to HANA, S/4HANA and modern coding standards
- Regroup, rename and cluster components to represent specific application clusters
- Automate dual maintenance and retrofit to keep project landscapes synchronized

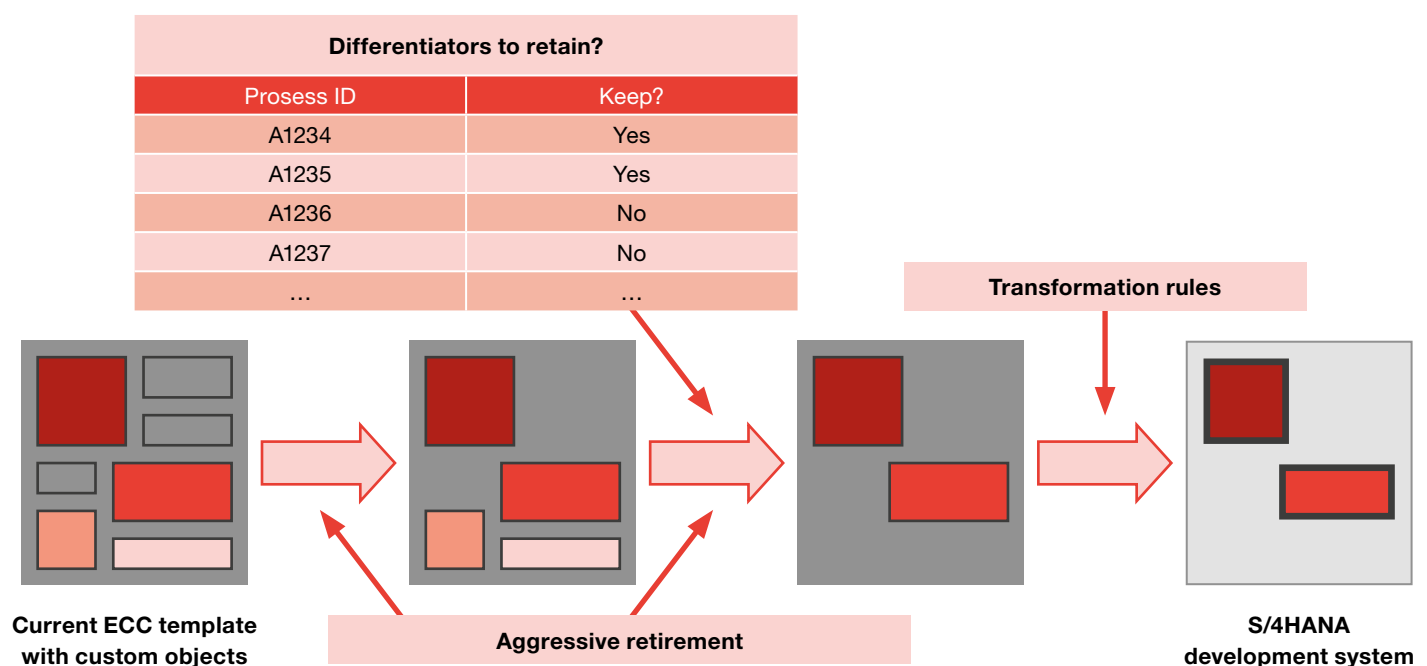
At a leading automotive OEM, in addition to usage-based decommissioning, process maps were evaluated to determine what should be retained in the to-be S/4HANA design, and what should be cleaned up.

An analysis of custom code replacement with S/4 standard functionality is recommended. For example, if a customer has historically developed material flow control programs, can these be taken over in the SAP standard Material Flow System? Or is it possible to leverage standard IDocs instead of custom interfaces? Many SAP customers use 3rd party add-ons for features that are now available in the S/4 Standard and can be leveraged for a more efficient integration. Additionally, for custom programs that cannot be moved back-to-standard, options should be checked to reduce the TCO, e.g. by moving custom objects to a cloud app or microservice.

A pre-configured Best Practice Industry Solution reference system also helps to evaluate the back-to-standard potential. This approach allows for an objective evaluation of the standard functionality and facilitates the discussion on any potential gaps which then should be addressed in a subsequent gap closing workshop.

By comparing the baseline created by the as-is analysis (comprising process mining and custom code analysis) with the industry benchmark of typical standardizations per E2E process, a first top-down standardization potential per E2E process can be derived. From there, through a series of fit-to-standard workshops, back-to-standard processes, sub-processes and process steps can be identified.

## Custom Code Replacement Analysis







# Defining standardization targets and setting up template governance

## Define and align the target process model

As described earlier, a key challenge in driving standardization is building a common ground where all parties – process owners, key and end users, IT – support the goal of reaching the standardization potential. This is especially a challenge if the standardization initiative comes from one of the stakeholders but has not been agreed upon by others.

A two-step approach to build consensus on the change levers works well to achieve the desired level of standardization. In the first step, the global process owners are supported to define the target process model and to detail these to process level 4–5 where it is possible to accurately assess the impact to specific business units or geographies. In the second step, roadshows and alignment meetings are conducted with local and regional process leads to ensure localization aspects have been sufficiently covered in the target process model.

Once the target process is agreed upon by the process owners (global and local) and key users in the organization, it is important to lay out the roadmap for the process changes to be activated. This is typically the start of the S/4 journey for organizations that take the opportunity to simplify, standardize, harmonize, digitize and automate their processes as part of the upgrade from ECC to SAP

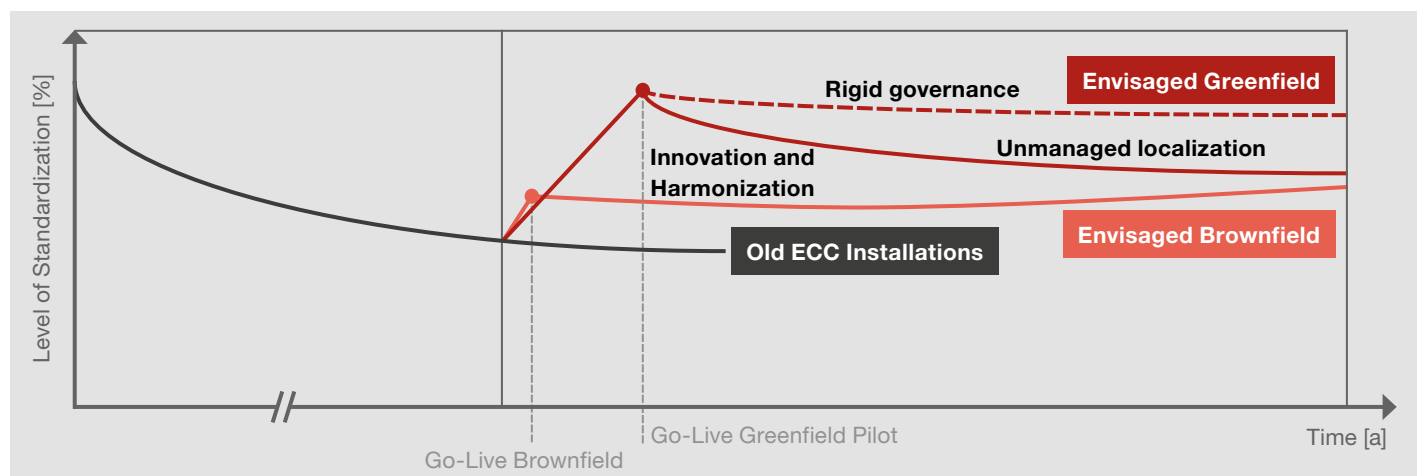
S/4HANA. In this context, different migration approaches are possible and the choice is usually tied to factors such as key drivers, degree of change, business benefits vs. risks and organization readiness.

## Standardization and template governance in an S/4 journey

Most companies running ECC in the last couple of decades have seen a decline in their level of standardization due to an ungoverned, organic growth of the system coupled with massive custom development.

Some companies choose to convert their ECC to S/4HANA using a brownfield or selective data transition approach that helps with mandatory simplifications and lift-and-shift to SAP standard structures, while still retaining own-development. Further standardization efforts are needed in a brownfield approach to achieve the target standardization level. Other companies choose to define a fresh template based on a best practice industry solution through a greenfield approach. Greenfield takes longer but results in higher standardization potential from the start. Regardless of the chosen migration path, it is important to have a target for standardization per E2E process and a process governance framework that allows for evaluating the optimization potentials and translating that to a E2E process-based standardization roadmap.

## Template Governance in an S/4HANA Journey





# Moving to standard, protecting differentiation

Template governance is important not just to define the framework of the new or upgraded solution, but also to ensure that the degree of standardization does not decline shortly after the go-live of the standard solution. On the contrary, efforts should be made to further incorporate new standard features which are made available in the quarterly or annual SAP releases.

## Striking the right balance

Though standardization benefits are well established, sometimes there are compelling reasons to deviate from the standard, e.g. when the as-is process, even though not following the standard, is a key differentiator to the competition. In discussions to drive standardization, it is necessary to separate resistance from the business being overprotective of sunk costs, etc. vs real differentiators. One way of achieving this is by asking a set of “what if?” questions to clearly establish the need to retain a non-standard process or custom development. This investigation also helps laying out a model for governance of the standard features in the template.

## Benchmark and business case

Ultimately the result of efforts to achieve standardization are expected to be measurable and result in a positive business case. Though not straightforward, developing a properly structured and benchmarked business case can be especially beneficial to regularly monitor the template health and support ongoing key design decisions.

By defining specific metrics to measure standardization, e.g. in terms of process variants and custom developments, an appropriate governance model can be developed on top of defining threshold limits or targets for the selected metrics. A slice-and-dice of the metrics by different

organization units or geography may serve to provide level of standardization in these business areas. A strong business case for standardization can thereby be clearly formulated and promoted throughout the organization.

The value of standardization, if understood and approached in the right way, is significant. Experience has proven that the methods and tools discussed in this paper are effective ways to drive efficiencies and reduce overall TCO of an organization’s SAP ERP system.



## Tips: what to look out for!

- Select the appropriate tool for analysis and conduct a meaningful data interpretation
- Get stakeholder buy-in early in the decision-making process to reach a broader consensus on the organization’s future
- Identify/select an SAP standard reference model that covers the client’s understanding and needs
- Work closely with the business to identify the true differentiators compared to competitors
- Don’t settle for the status quo; find opportunities to expand the competitive advantage
- Establish a commonly agreed business case for standardization
- Define realistic standardization targets and strictly govern them



# Contact

**Stephan Kerner**

Partner, PwC  
stephan.kerner@pwc.com

**Taylor Baumgartner**

Senior Manager, PwC  
taylor.baumgartner@pwc.com

**Manish Shukla**

Senior Manager, PwC  
manish.shukla@pwc.com

**Jan-Christian Schollek**

Senior Associate, PwC  
jan-christian.schollek@pwc.com

**Arndt Hoffmann**

EVP & GM Global SAP Practice,  
smartShift Technologies  
ahoffmann@smartshift.com

**About us**

Our clients face diverse challenges, strive to put new ideas into practice and seek expert advice. They turn to us for comprehensive support and practical solutions that deliver maximum value. Whether for a global player, a family business or a public institution, we leverage all of our assets: experience, industry knowledge, high standards of quality, commitment to innovation and the resources of our expert network in 157 countries. Building a trusting and cooperative relationship with our clients is particularly important to us – the better we know and understand our clients' needs, the more effectively we can support them.

PwC. Nearly 12,000 dedicated people at 21 locations. €2.3 billion in turnover. The leading auditing and consulting firm in Germany.

PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft adheres to the PwC- Ethikgrundsätze/PwC Code of Conduct (available in German at [www.pwc.de/de/ethikcode](http://www.pwc.de/de/ethikcode)) and to the Ten Principles of the UN Global Compact (available in German and English at [www.globalcompact.de](http://www.globalcompact.de)).

© October 2020 PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft. All rights reserved.

In this document, "PwC" refers to PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, which is a member firm of PricewaterhouseCoopers International Limited (PwCIL). Each member firm of PwCIL is a separate and independent legal entity.