

2024

GLOBAL STATUS AND TRENDS IN DIGITAL TRANSFORMATION AND CONFORMITY ASSESSMENT

An International Comparison across 15 Countries and Regions

A QI-FoKuS Study

A comparative study conducted within the framework of the QI-FoKuS initiative

Basic statistical population	Conformity assessment bodies (CABs) in 15 countries and regions worldwide
Data collection method	Online survey
Survey period	December, 2021 March, 2023
Sample	1447 fully completed questionnaires (=9% response rate)



QI-FoKuS
Research on Conformity Assessment and Safety

Digitalization in Conformity Assessment

Online Survey



The ongoing digital transformation of the economy and the increasing complexity of networked products and applications are bringing digitalization into the focus of conformity assessment bodies (CABs). The demand for conformity assessment services is rising in tandem with innovations, new technologies, and processes. This poses new challenges for testing and calibration laboratories, inspection and certification bodies, and other CABs. Nevertheless, the emergence of advanced digital technologies and applications also opens up new opportunities for these organizations. This study is the first to comprehensively explore "Digitalization in Conformity Assessment" building on data from an online survey of CABs worldwide (14 countries and West Africa as a region with seven countries).

Major topics covered

Digital Maturity Level

Assessment of the digital maturity of the CABs in different countries based on a tailored digital maturity model

Drivers, Benefits and Barriers

What motivates CABs to transform digitally, what impact do they experience, and what hurdles must be overcome?

Technology Trends

Assessment of the digital technologies and applications currently in use (now and in a 5-year perspective)

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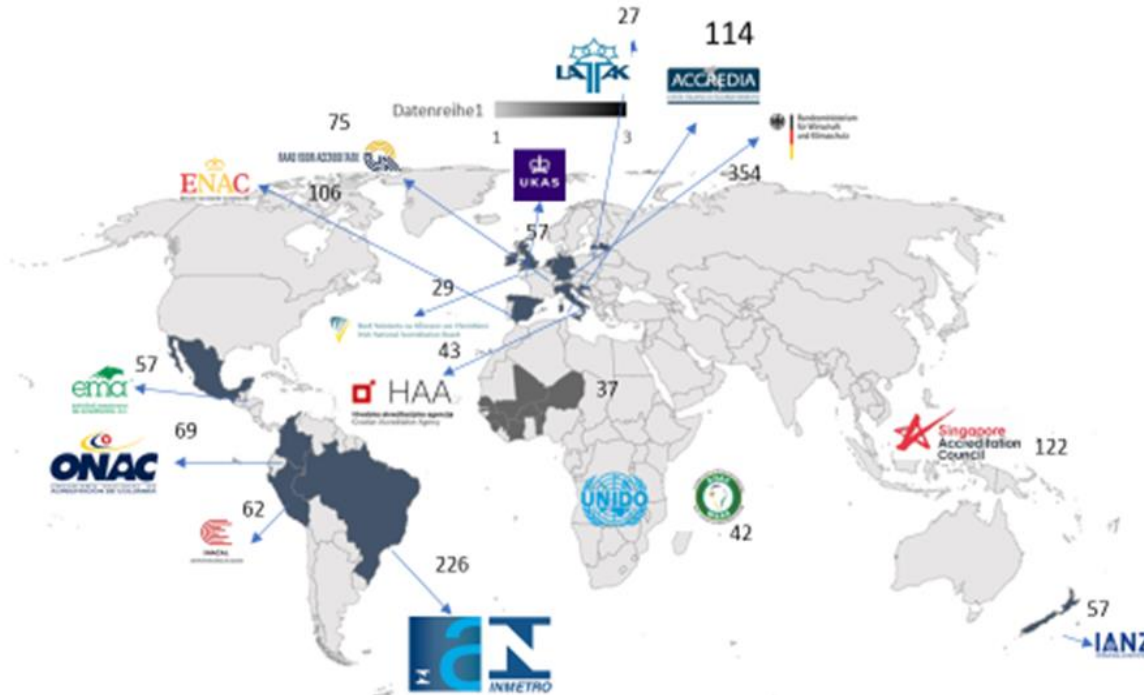
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The Sample

General information about the participating
Conformity Assessment Bodies

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Countries and regions participating in the survey



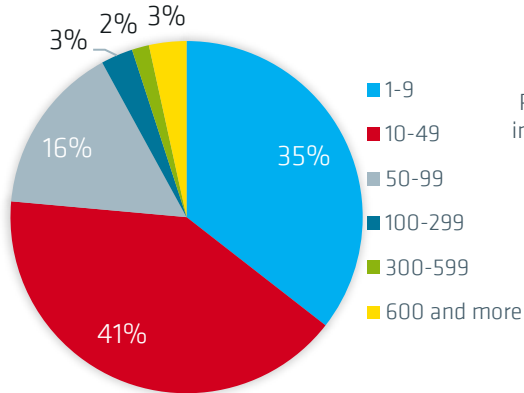
- Conformity assessment bodies (CABs) from **14 countries and the West Africa region** took part in the survey.
- To gather the data and contact the conformity assessment bodies (CABs), we **partnered with national or regional accreditation bodies. UNIDO** supported the implementation of the survey in the West Africa region.
- **1447 responses** were included in the study.

Brazil (n=227)	Mexico (n=57)
Germany (n= 354)	Ireland (n=29)
United Kingdom (n= 57)	Italy (n=114)
Netherlands (n=57)	Peru (n=62)
New Zealand (n=80)	Singapore (n=122)
Colombia (n=69)	Spain (n=106)
Croatia (n=44)	West Africa (n=42)
Latvia (n=27)	

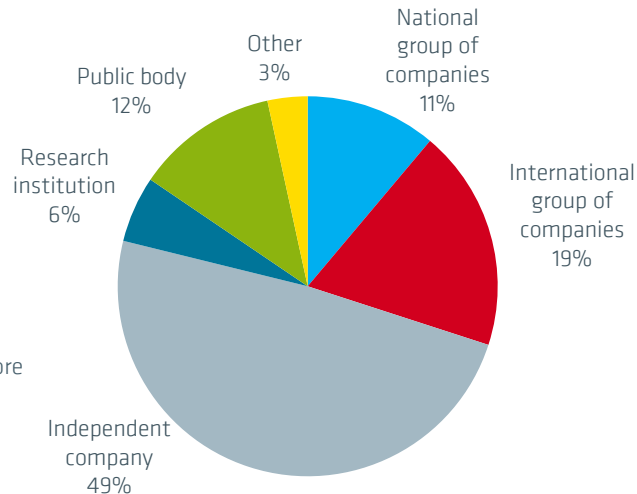
1447 CABs globally participated in the survey

- 76% of the participating CABs are **small businesses** with less than 50 employees.
- 49% are **independent companies**, 19% belong to an **international group** and 12% are **public bodies**.
- For 41%, Conformity Assessment (CA) is the main economic **focus of activity** and for 37% it is **one activity among others**.

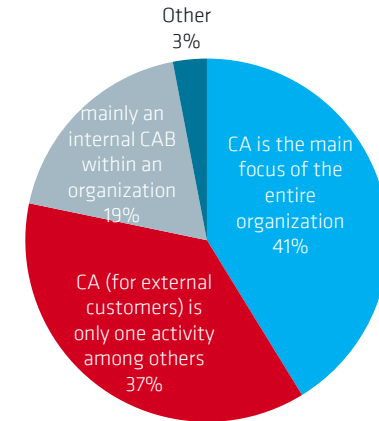
Number of employees (n=1411)



Type of organization (n=1437)

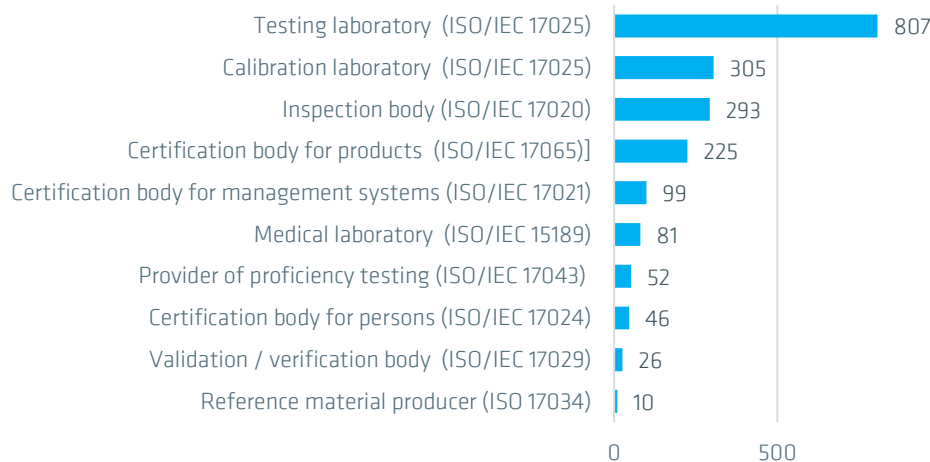


Role of CA for the organization (n=1426)

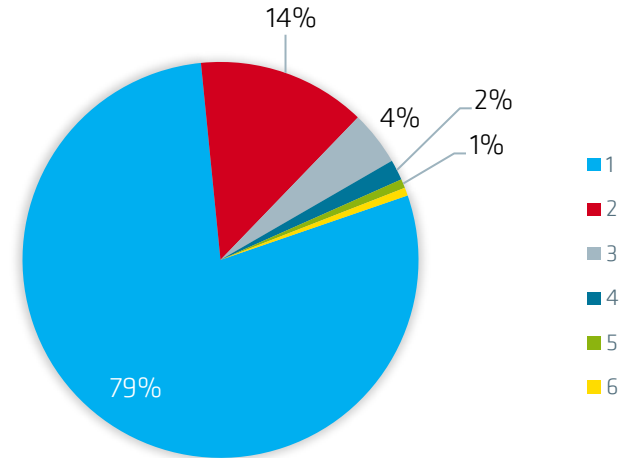


The 1447 participating CABs are active in (almost) all fields of conformity assessment

Field of activity



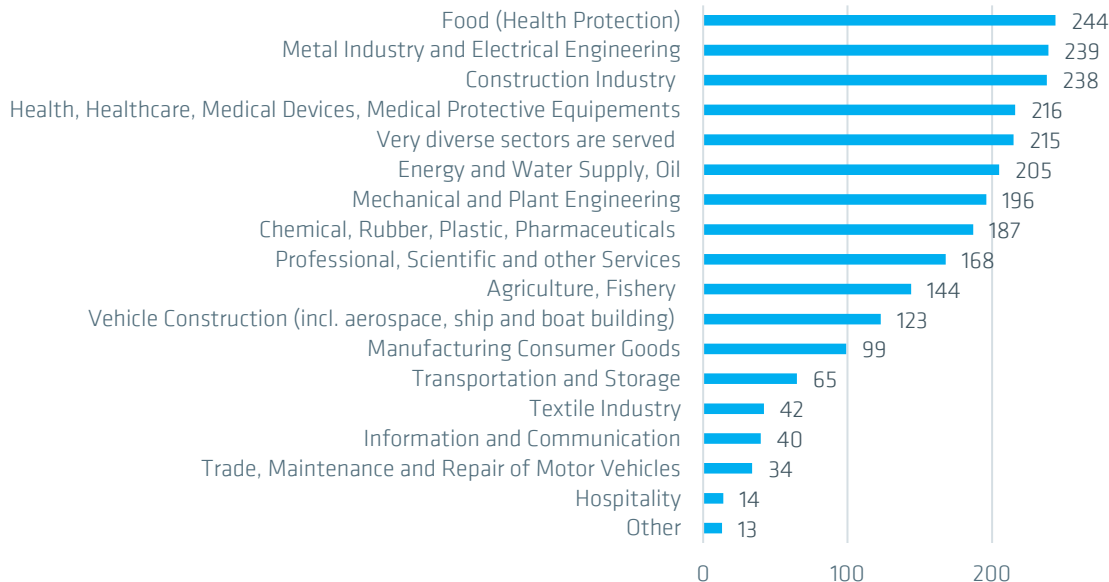
Number of fields of CA activities per CAB



- Overall, testing laboratories represent the **largest group of participants**, followed by calibration laboratories and inspection bodies. In Colombia and Ireland, calibration bodies and medical laboratories represented the largest group of participants.
- 79% of CABs are **specialized** in a single field of conformity assessment activity; 14% cover two activities and only a few cover a broader range of activities (up to 6).

The CABs serve a broad spectrum of sectors

Main sectors served by CABs



Main sector per country

Food (Health Protection)

- Brazil, Croatia, Italy, Spain, West Africa

Metal Industry and Electrical Engineering

- Germany, Mexico

Construction Industry

- UK, Singapore, New Zealand

Health, Healthcare, Medical Devices & Equipment

- Ireland, Latvia, Netherlands

Energy and Water Supply, Oil

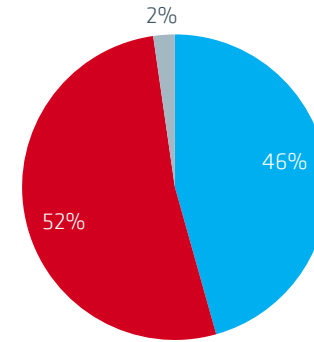
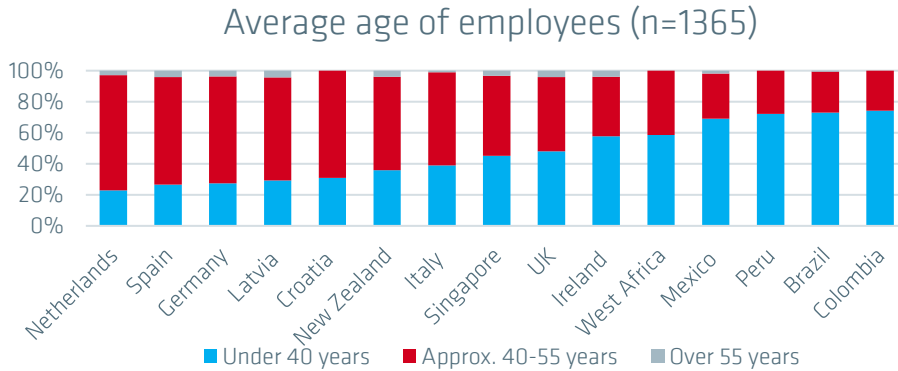
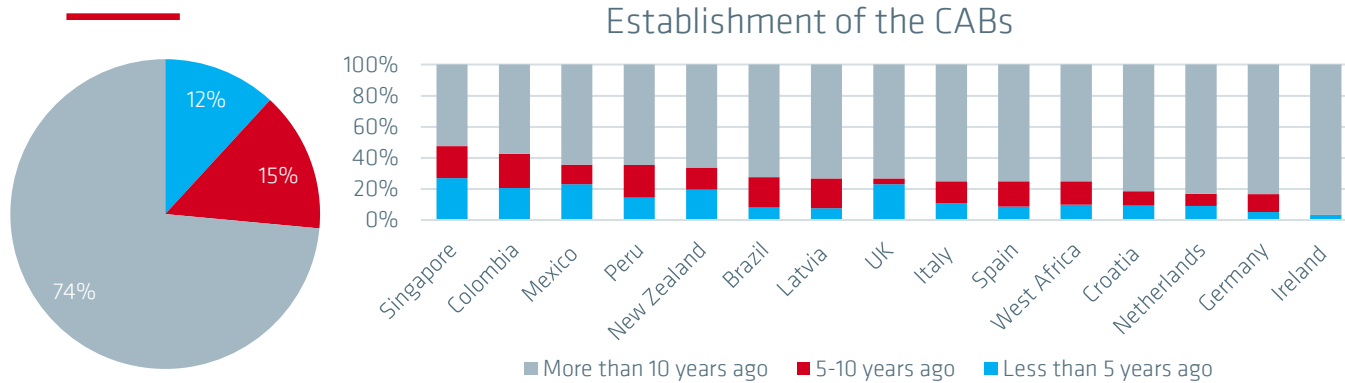
- Colombia

Agriculture, Fishery

- Peru

- The **main industry** served across all countries is the food industry followed by the metal and construction industry as well as Healthcare.
- Yet, the ranking of the main industries differs across single countries.

The age of CABs and the average age of their employees differ on a global scale



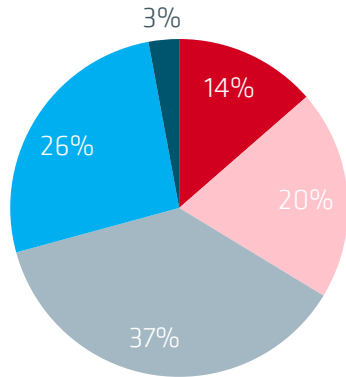
- On average, the participating CABs **have been established on the market for longer**: 74% were founded more than 10 years ago. The largest share of this group is in the Netherlands and Germany (83%) and Ireland (97%).
- Singapore shows the highest relative share of comparatively "younger" CABs. Every 4th CAB there has been active for less than 5 years.
- The **average age of the workforce** also differs internationally: While the South American CABs have predominantly younger workforces, continental Europe has the highest average age group of 40 to 55-year-olds.

Digitalization in Conformity Assessment Bodies A General Overview

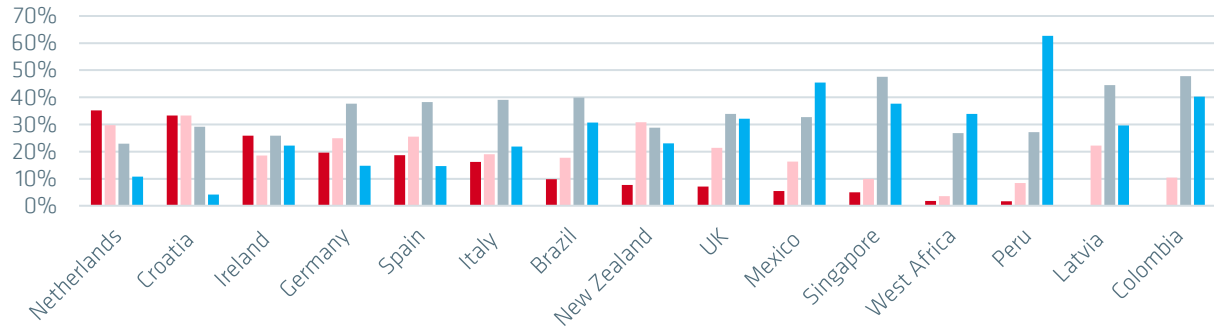
This section sheds light on how the participating CABs perceive digitalization for their organization (now and in perspective) and how they self-evaluate their current state of digital transformation.

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Digitalization as increasingly relevant topic for CABs globally



Years dealing with digitalization (n=1303)



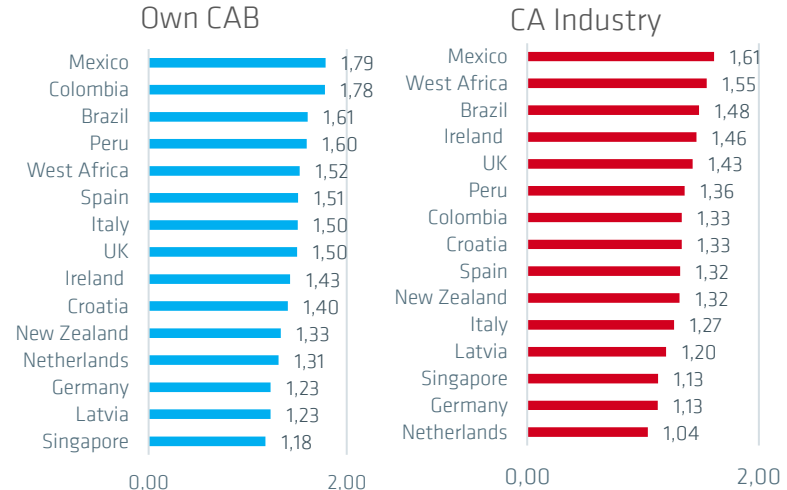
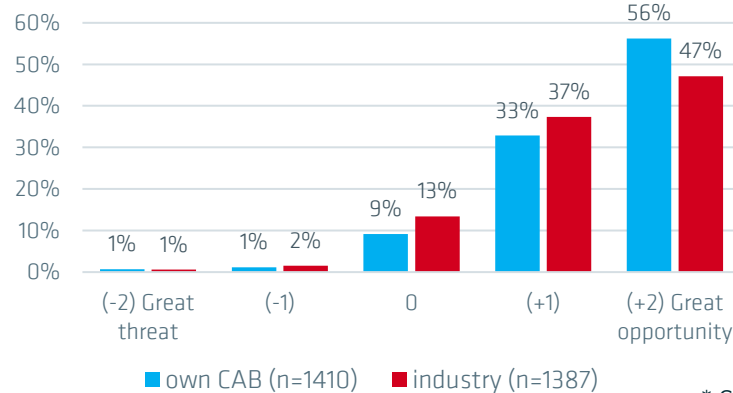
■ More than 10 years ago ■ 5-10 years ago ■ 2-5 years ago ■ Less than 2 years ago ■ I do not know

- The relevance of **digitalization** has been growing steadily for conformity assessment bodies (CABs).
- Nevertheless, a significant majority of CABs (63%) **began addressing digitalization relatively recently** – within the last five years – notably in countries like Peru, Mexico, and Colombia. It should be noted that the participating CABs in these countries have only been active on the market for a comparatively short period (see p. 10). In contrast, CABs in the Netherlands, Croatia, and Ireland (which are older, on average) have been engaged with the topic of digitalization for a more extended period.

Digitalization more of an opportunity rather than a threat

Perception of digitalization with regards to the... (*)

For the CAB itself and the whole industry, digitalization is viewed rather as...

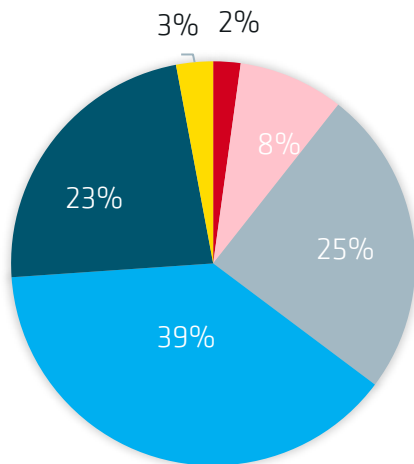


* Calculated according to the 5-point-Likert scale given from -2 (great threat) to +2 (great opportunity)

- CABs have a **positive perception** of digitalization: 89% of the surveyed CABs recognize **digitalization as an opportunity or even a great opportunity** rather than a threat for their own organization, and 84% with regard to the whole CA industry.
- This trend is evident across all countries. However, the overall perception is particularly optimistic in Mexico and Brazil, whereas in the Netherlands, Germany, Singapore and Latvia, perceptions are slightly less confident, although they still remain at a high level.

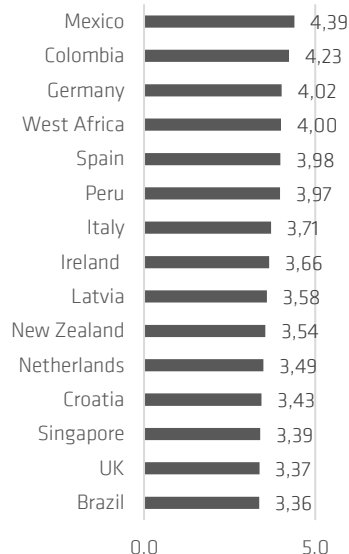
Digitalization is expected to have a major impact on CAB operations in the coming years

Expected impact of digitalization in the next 5-10 years (n=1433)



(1) No impact at all (2) Low impact (3) Moderate impact
(4) High impact (5) Very high impact I do not know

Country average *

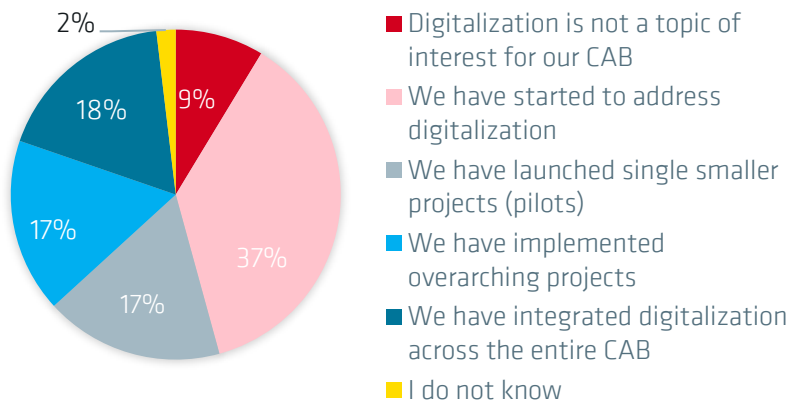


* Calculated according to the 5-point-Likert scale given from 1 (no impact at all) to 5 (very high impact).

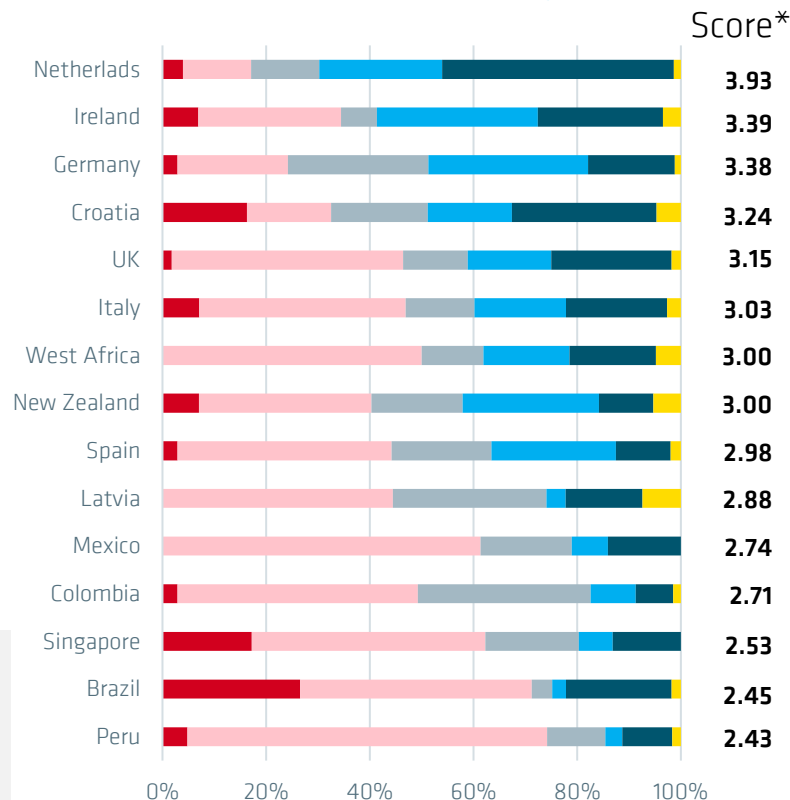
- 62% of the participants expect digitalization to have a **high or even very high impact on CA activities** in CABs in the coming 5-10 years. Every fourth CAB expects only a moderate impact. 10% expect a low or no impact at all.
- Expectations vary across countries: Whereas Mexican and Colombian CABs expect high impacts, CABs from Brazil, the UK, and Singapore expect rather lower impacts.

Diverse status of digitalization across the CABs

Status and extent of digitalization in the CABs (n=1430)



- While 37% of the CABs have just started to address digitalization, 18% state to have integrated digitalization across the whole organization.
- The progress varies across countries, with Dutch CABs leading internationally.

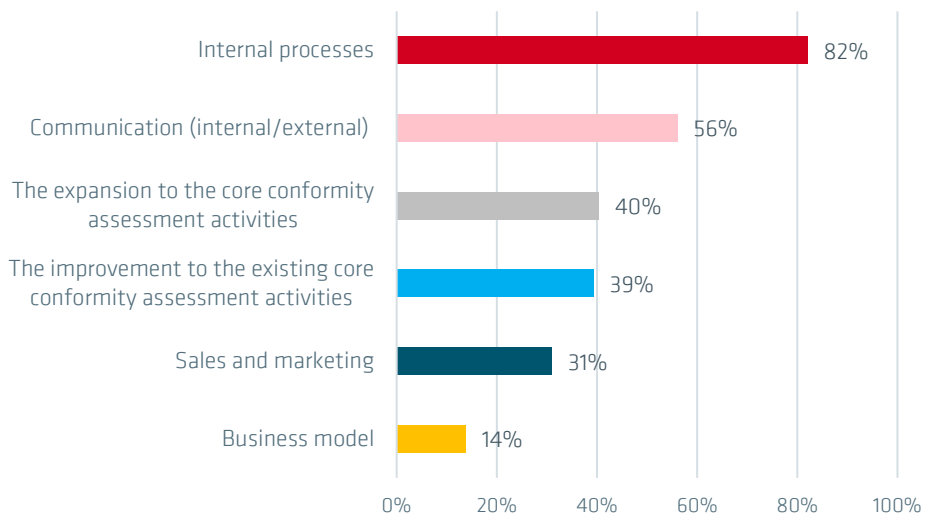


* Calculated according to the 5-point-Likert scale given from 1 (no topic of interest) to 5 (integrated across entire CAB).

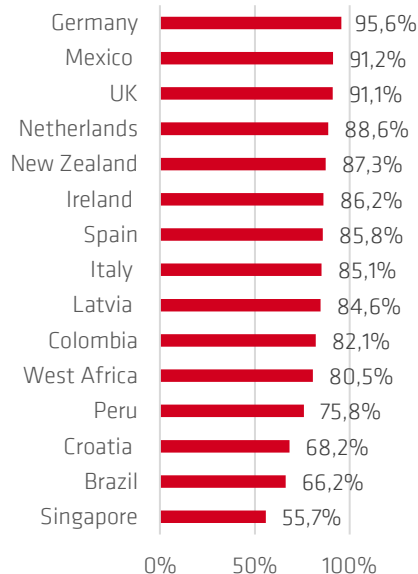
Digitalisation is mainly aimed at internal processes



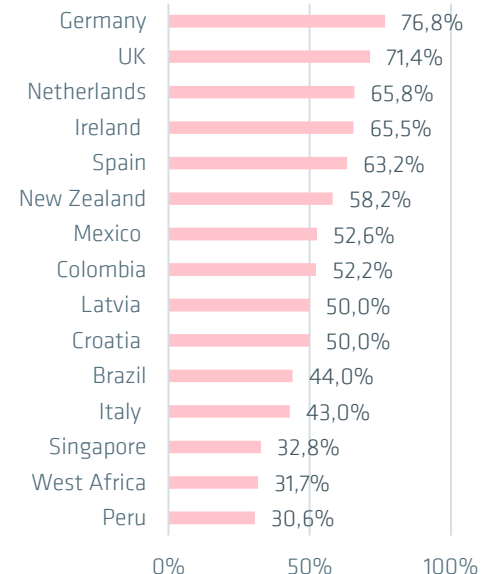
Areas affected by digitalization (n=1437)



Internal processes



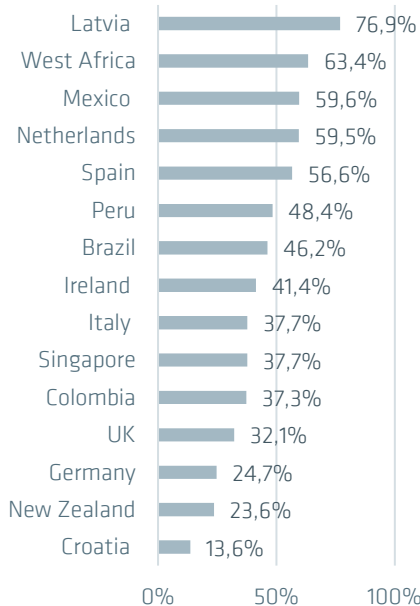
Communication (internal/external)



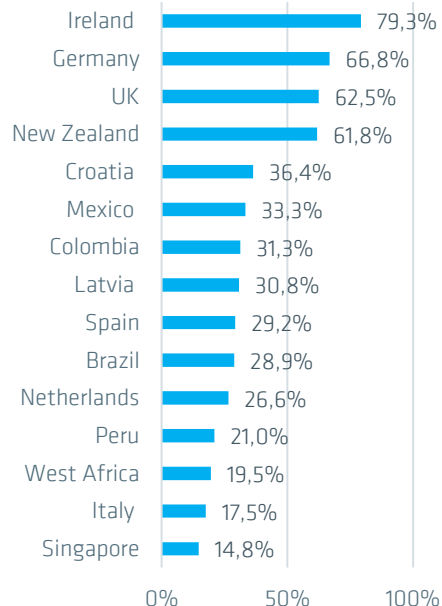
- Most digitalization activities concern internal processes, followed by enhanced communication. To a lesser extent, digitalization supports the expansion of CA activities and the improvement of existing ones.
- Digitalization is currently rarely used to adopt new business models (esp. in West Africa). However, CABs in the UK and New Zealand are noticeably more innovative (see p. 17).

Areas targeted by digitalization

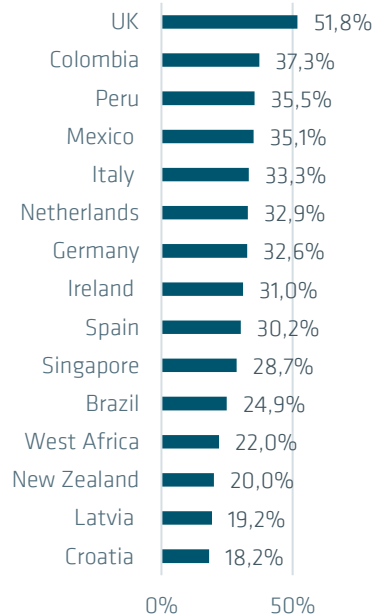
The expansion to the core conformity assessment activities



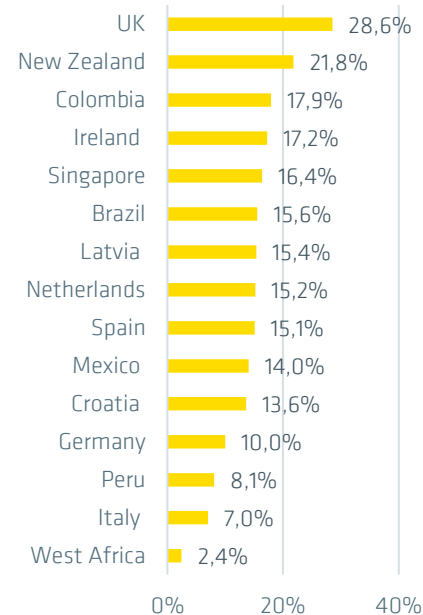
The improvement to the existing core conformity assessment activities



Sales and marketing

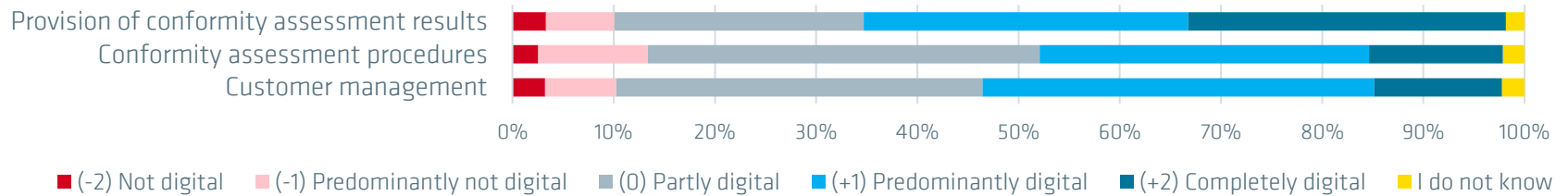


Business model



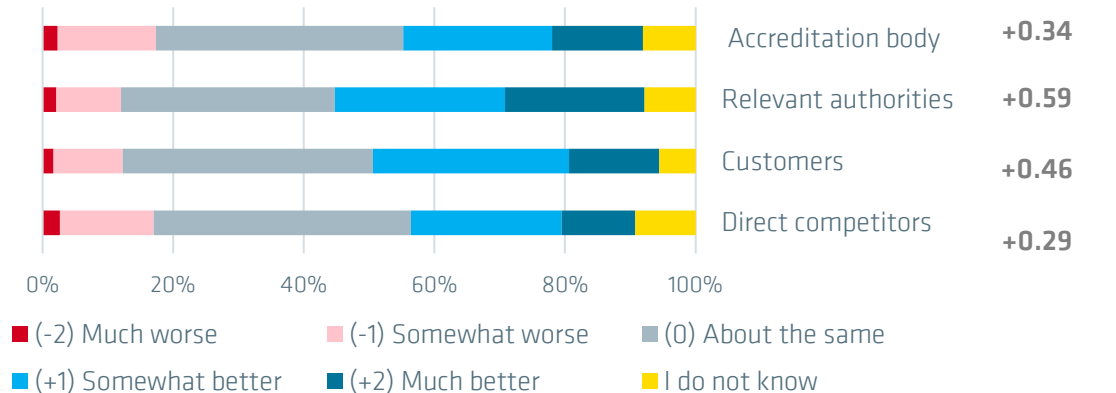
Positive self-assessment of digitalization in core areas - and in comparison with stakeholders

Self-evaluation of the CABs' status of digitalization in different areas (n=1305)



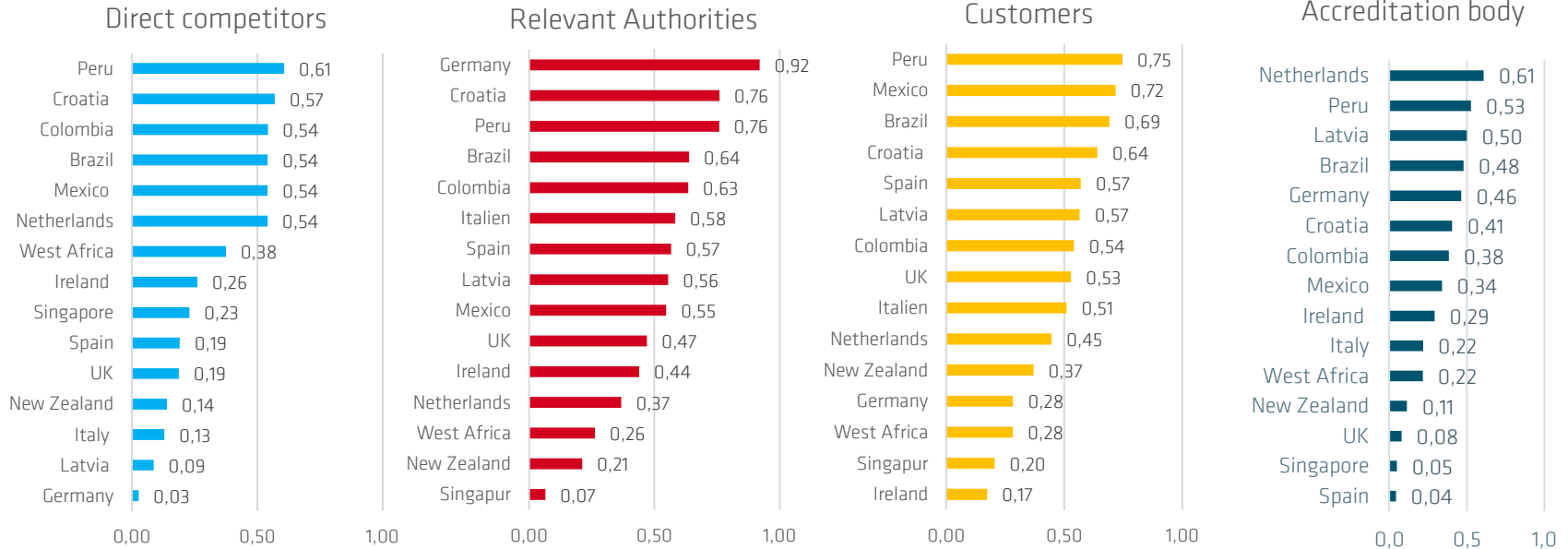
- The CA results are primarily or completely provided in digital form by the majority of CABs. The CA procedures themselves are less digitized.
- Yet, compared to their main stakeholders, CABs perceive their digitalization status more advanced, specifically in the case of relevant authorities and customers.

Self-assessed digitalization status compared to...



* Calculated according to the 5-point-Likert scale given from -2 (much worse) to +2 (much better).

Perceived degree of digitalization compared to major stakeholders vary across countries



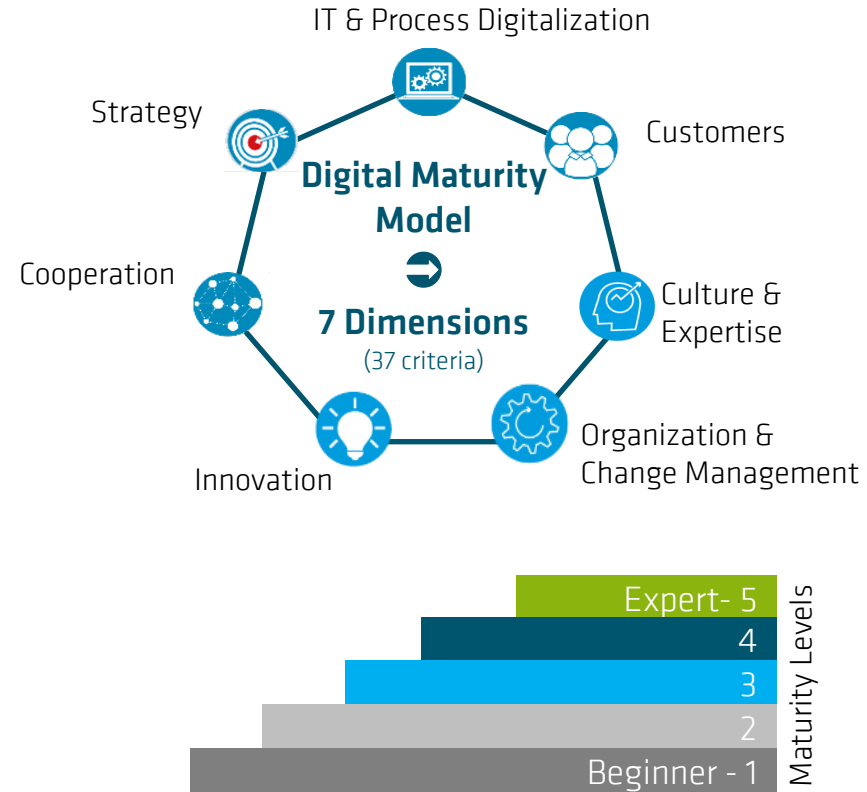
* Calculated according to the 5-point-Likert scale given from -2 (much worse) to +2 (much better).

Digital Maturity of CABs

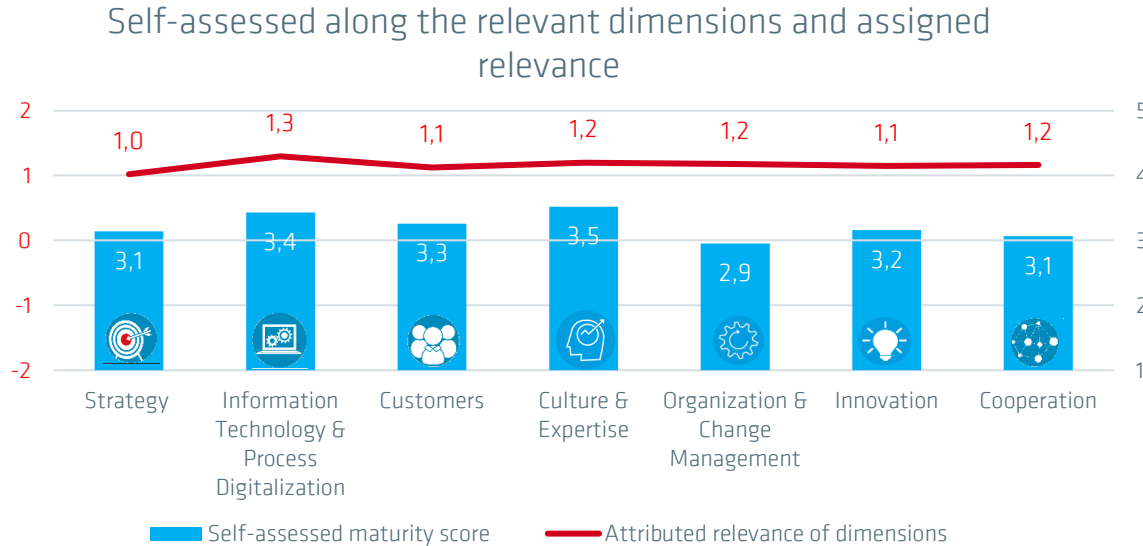
The "digital maturity" of an organization describes its status of digital transformation. Digital maturity models use predefined dimensions and criteria to assess the ability of organizations to address digital transformation. The following chapter presents the results of the applied digital maturity model tailored to the CA industry.

The seven dimensions of the digital maturity model for the conformity assessment industry

- The digital maturity level reflects the status of digital transformation of an organization and includes technical as well as organizational and strategic aspects.
- Becoming a digitally mature organization requires **efforts, capabilities and resources** across many areas.
- These are mapped in a maturity model using various **dimensions and criteria**:
 - Our specially developed model takes into account 7 dimensions that are essential for the digital transformation of CABs: from technological to strategic and organizational to cultural aspects.
 - Each dimension is operationalized by 4 to 6 criteria describing basic success factors in terms of capabilities, capacities, and resources.
- By means of a self-assessment of the participating CABs along these criteria, an individual **digital maturity level** is calculated - from level 1 ("beginner") to level 5 ("expert").



Different maturity of dimensions: IT advanced, organization not yet



The results of the maturity model show a difference in the average status of the CABs in the various dimensions:

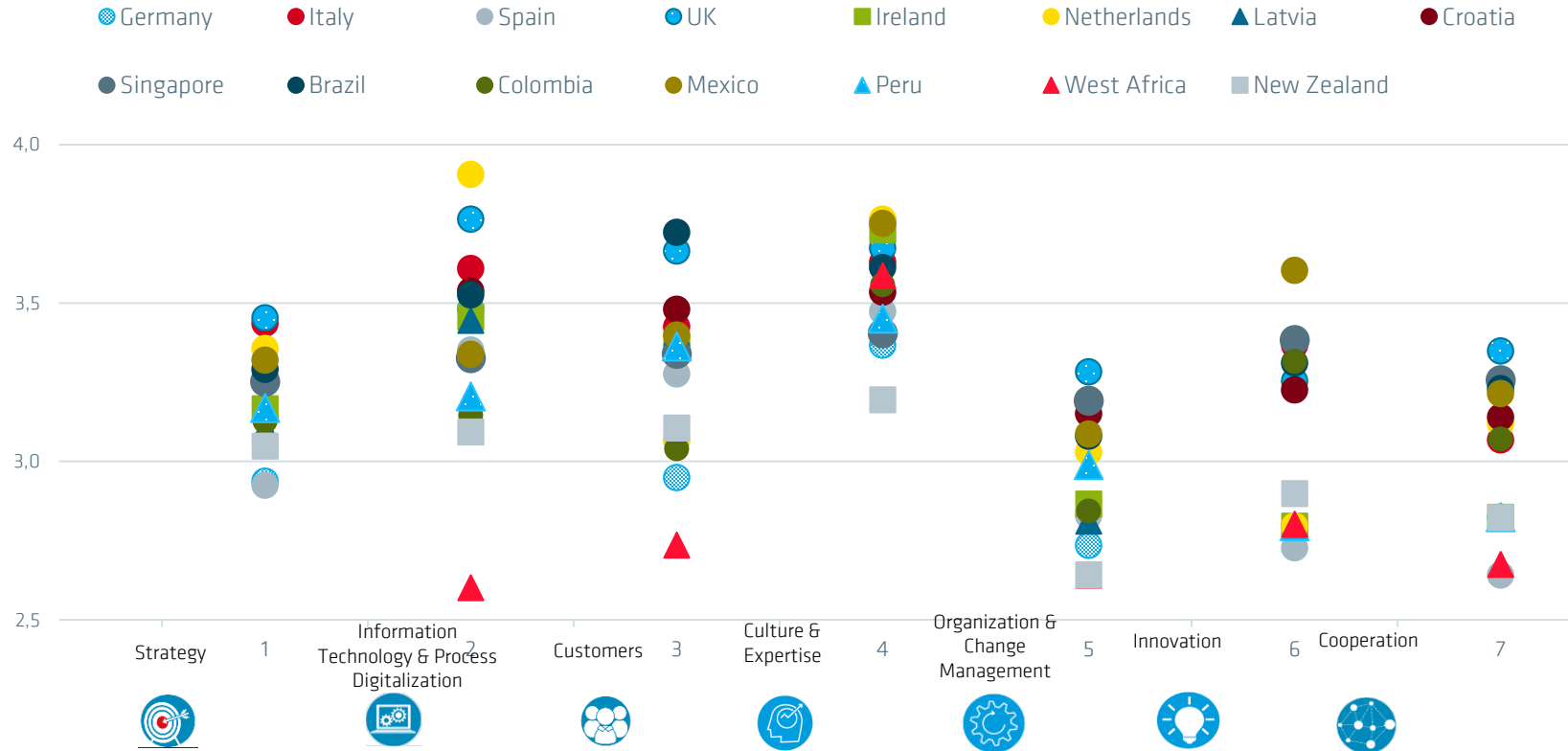
- The CABs consider themselves to be **most advanced** in the areas of “Culture and Expertise” and “IT and Process Digitalization”.
- CABs consider to be **less digitally mature** in the area of “Organization & Change Management”.

This pattern is distinct: digital transformation in organizations begins with the introduction of technologies and develops into an implicit holistic organizational transformation.

➔ *Details on the composition and partial results in the individual dimensions can be found in the appendix.*

* CABs were asked to self-evaluate along statements in 7 topic areas (dimensions) on a scale from 1 (I do not agree at all) to 5 (I fully agree). These statements and dimensions are displayed in detail in the following pages. Participants were then asked to rate the importance of each dimension with regard to a successful digital transformation on a scale from -2 (not important at all) to +2 (very important).

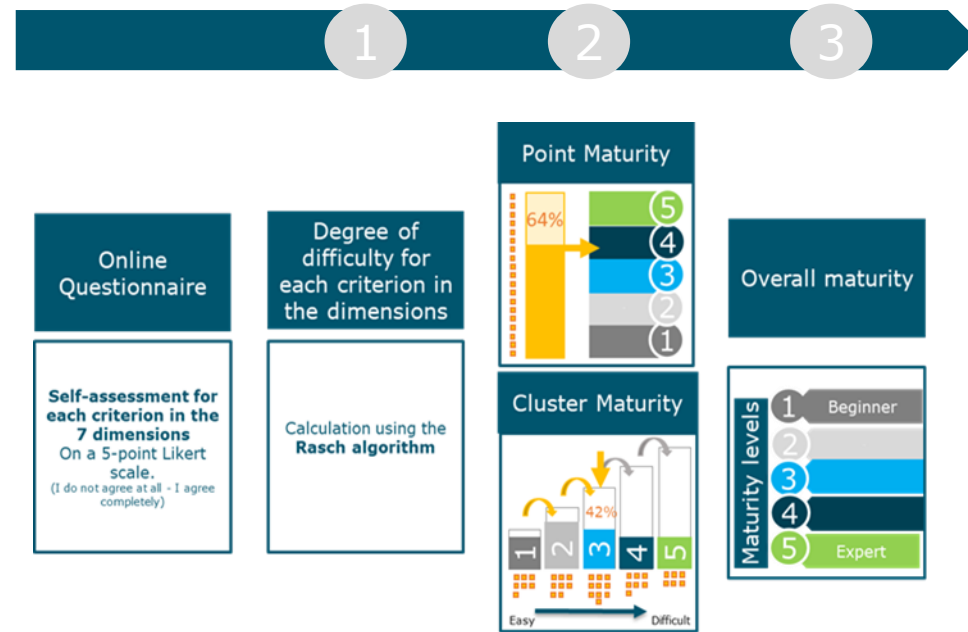
Relevant country differences in the self-assessed maturity scores



Background information: Calculation of the digital maturity level

In the questionnaire, participants indicate the extent to which each of the criteria of the 7 dimensions applies to their CAB. In a **multi-stage process**, digital maturity is determined on the basis of these assessments:

1. For each criterion, the Rasch algorithm is first used to calculate how difficult it is to achieve a good result for it (**degree of difficulty**). If, on average, a large number of participants state that they can meet this criterion, it is classified as easy to achieve.
2. Based on this, 2 types of maturity levels are determined: **Cluster analysis** is used to divide the indicators into 5 sequential maturity clusters (1 = easiest indicators; 5 = most difficult). To reach a higher maturity, the thresholds of the lower maturity levels have to be met first. In addition, the **point maturity** is calculated: Here, the points achieved count in comparison to the possible total points.
3. The **overall digital maturity score** is the average of the cluster and point maturity scores.



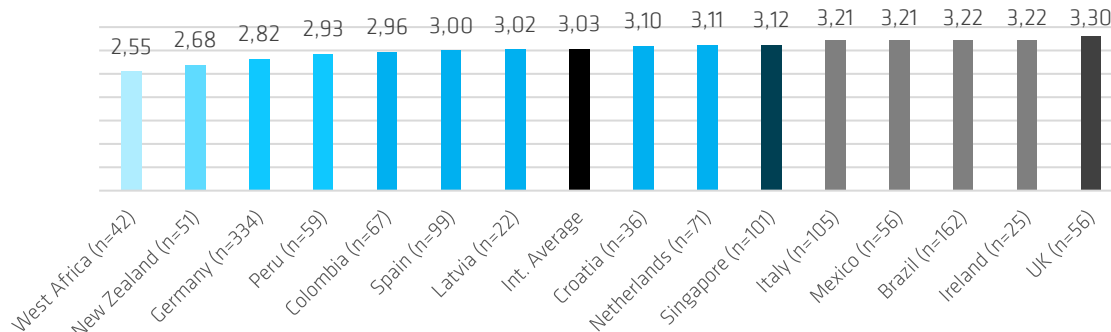
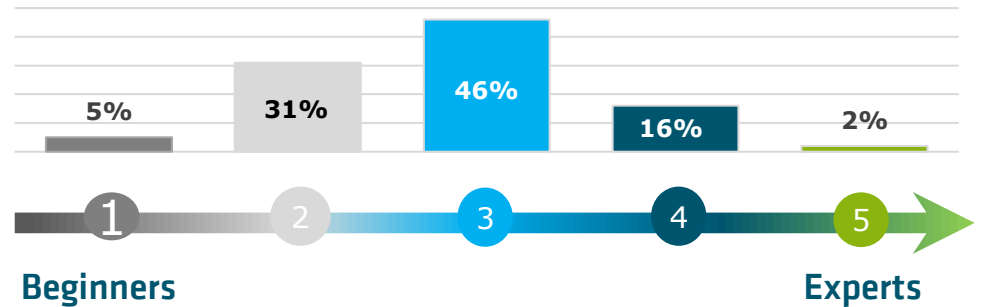
The calculation is based on the method of the St. Gallen Maturity Model. See Back & Berghaus (2016). Digital Maturity & Transformation Study; Berghaus & Back (2016). Stages in Digital Business Transformation; and Friedel & Back (2012). Determination of enterprise 2.0 development levels with a maturity model.

Digital Maturity Scores of the international CA industry across at a glance

The **digital maturity levels** achieved by the participating CABs worldwide follow a statistically *normal distribution*:

- Most CABs (46%) have achieved **intermediate stage 3**. Only 2% achieved the **expert maturity stage 5**; 5% are still on the very **beginner level 1**.

Distribution of overall maturity scores (n=1420)



- Global average** of digital maturity: 3.03.
- Internationally, CABs from the UK exhibit the highest digital maturity. In contrast, West African CABs show the lowest value.

The 5 Digital Maturity stages in CABs worldwide

Expert

5

- ✓ Key indicators to measure the implementation of the digital strategy
- ✓ Digital Roadmap

- ✓ Early warning system to identify relevant digital technologies and business models

- ✓ Customers involved in development of digital innovations
- ✓ Clearly defined innovation process

- ✓ Partner network with external providers

4

- ✓ Clear responsibilities for digitalization goals

- ✓ Digital solutions based on customer needs

- ✓ Measurable goals
- ✓ Defined roles, responsibilities & decision-making processes
- ✓ Rapid response to change
- ✓ Sufficient resources to drive digital innovations

- ✓ Effective collaboration with stakeholder

Intermediate

3

- ✓ Documented digital strategy

- ✓ Automated routine processes

- ✓ Customer data analyzed

- ✓ Targeted training

- ✓ Innovations driven forward
- ✓ Competitive advantages through digitalization

- ✓ Exchange with external experts
- ✓ Effective internal collaboration

2

- ✓ New technologies and changes in customer behavior to identify potential for digital innovation

- ✓ Networked processes through IT
- ✓ Impact of new digital technologies on CA
- ✓ Investments in digital technologies
- ✓ IT usage reliably ensured

- ✓ Customer interactions via digital channels
- ✓ Integrated, digitalized customer care

- ✓ Understanding of the importance of digital transformation
- ✓ Availability of right people and skills
- ✓ Risk of failure accepted

- ✓ Digital activities integrated into core processes

- ✓ Collaboration across departments

Beginner

1

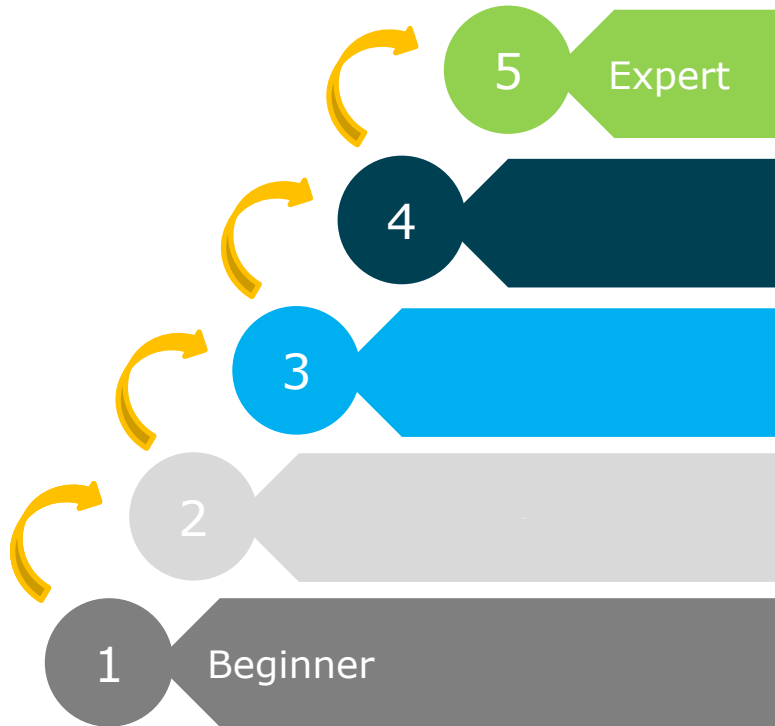
- ✓ Central role of digitalization in overall strategy

- ✓ IT security: awareness and compliance

- ✓ Openness to change

- ✓ Digitalization as a new source of value creation

The Digital Maturity of CABs worldwide// Summary of the observed patterns



- The highest maturity level (**stage five**) is characterized by intensive collaboration, in particular through targeted partner networks and the involvement of customers, clear innovation processes, key measures of digitalization, and supportive organizational structures.
- In the **fourth maturity stage**, the focus is on organizational adaptation and change management through the definition of responsibilities and allocation of resources. Customer needs and analyses also increasingly come into focus.
- For **stage three**, capabilities, resources, and capacities are mobilized across all dimensions, especially with regard to strategy implementation and innovation. To this end, internal and external collaboration is strengthened. Digitalization is recognized and pursued as a driver for new value creation.
- Organizations in **stage two** have a strong focus on IT and process digitalization. Corresponding investments are made, and the necessary personnel skills/competences are available. There is cross-functional and cross-departmental collaboration on this topic.
- Even at the **first maturity level**, digitalization is given a central place in the corporate strategy.

Motives, Impacts and Hurdles of Digitalization

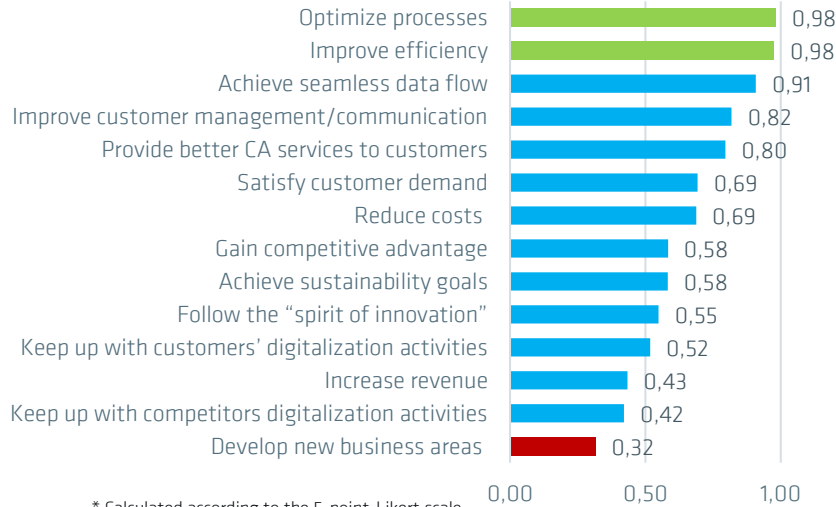
What is driving digitalization in the CABs? What effects can be achieved for the organizations? Are expectations being met? And what are the biggest hurdles that need to be overcome in the digital transformation?

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Process optimization and efficiency goals drive digitalization

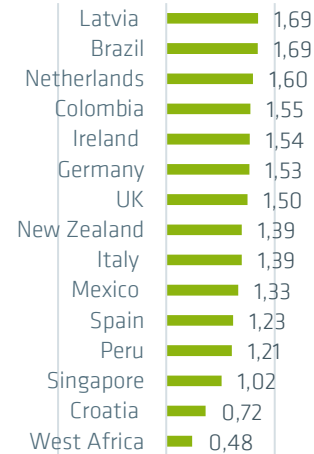


Goals behind the digitalization efforts (n=939)

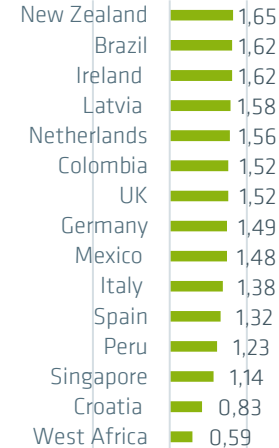


* Calculated according to the 5-point-Likert scale given from -2 (not agree at all) to +2 (fully agree).

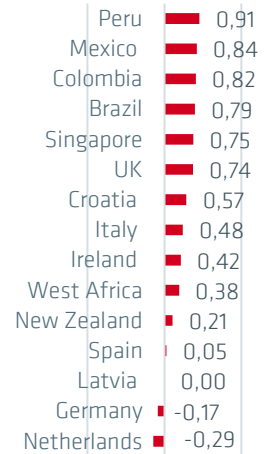
Optimize processes



Improve efficiency



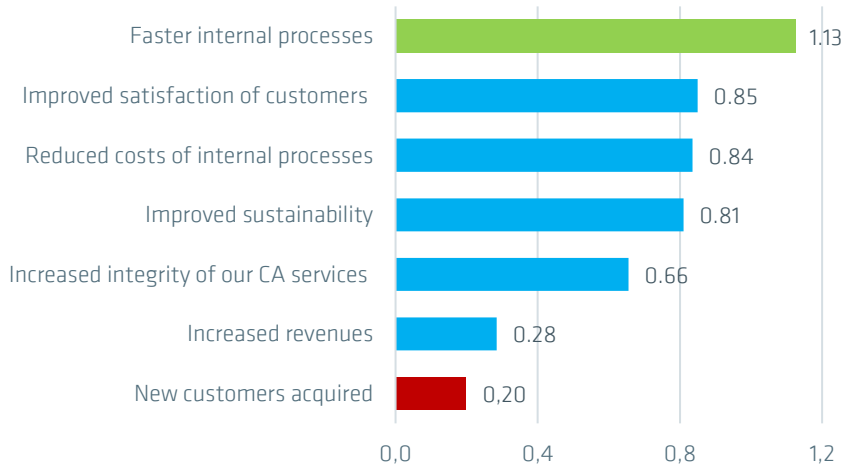
Develop new business areas



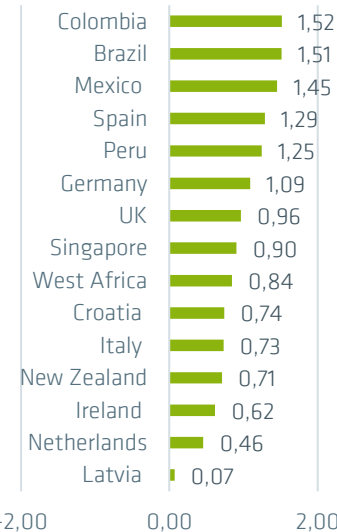
- Process optimization and efficiency improvements are the **main goals** behind the digitization efforts of CAB. This is in line with the top focus topic "Internal processes" (see p. 16). At the same time, the development of new business areas is not a key driver (just as new business model development was not in focus).
- However, there are major **international differences**: more market-oriented goals such as developing new business areas or offering customers better services are much more pronounced in South American and UK organizations. Sustainability goals also play a greater role in South America.

Improved internal processes are considered the greatest realized benefit

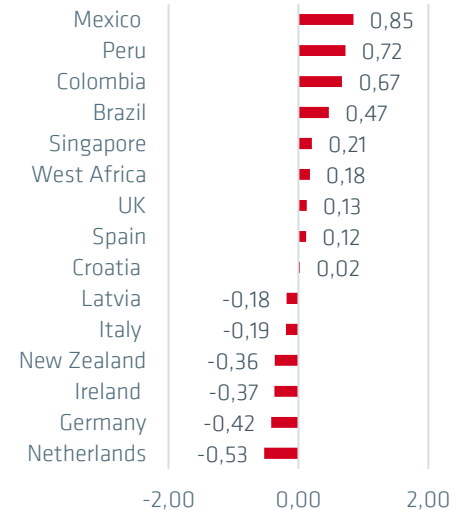
Benefits realized from digitalization (n=1322)



Faster internal processes



New customers acquired

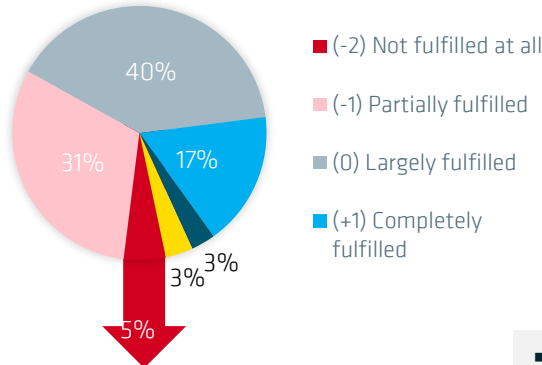


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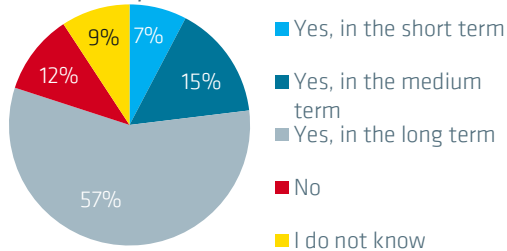
- In fact, faster and more cost-effective internal processes are among the greatest and **most frequently realized effects**. Many respondents also see the satisfaction of existing customers improved by their digitalization efforts, as well as the sustainability of the CAB. There are **fewer effects** in terms of business success figures such as turnover and new customer acquisition.
- **Remarkably**, South American CABs report greater effects in all possible actual benefits.

CABs' expectations in connection with digitalization are largely met

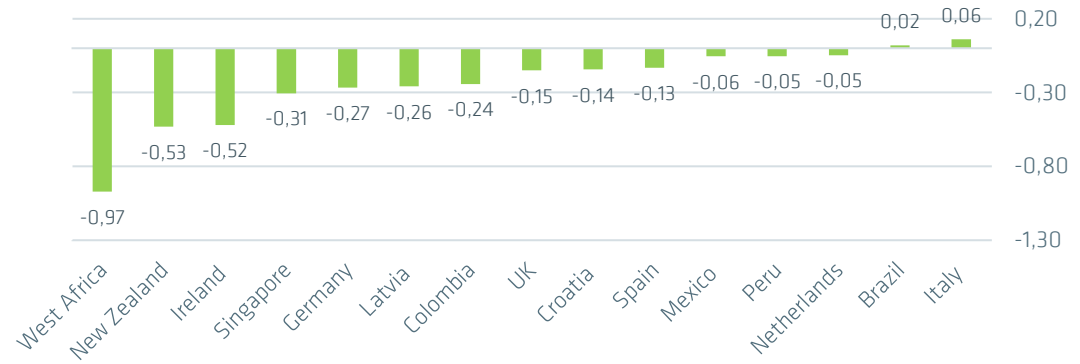
Fulfillment of expectations linked to digital transformation (n=1258)



Will the expectations be met? (n=67)



Country average *

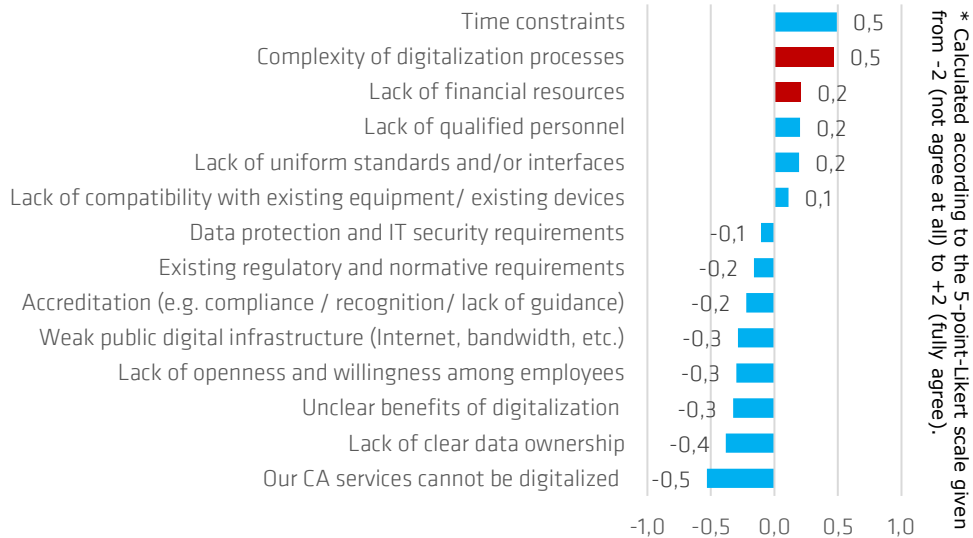


* Calculated according to the 5-point-Likert scale given from -2 (not fulfilled at all) to +2 (far exceeded).

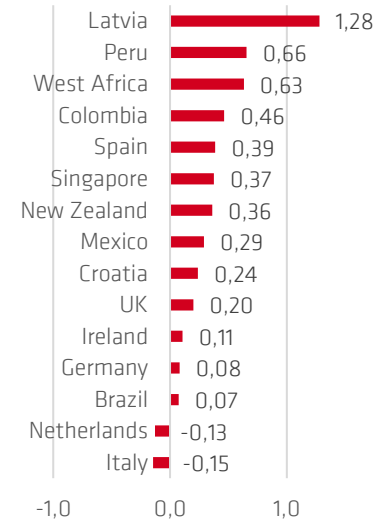
- 57% of the CABs consider their expectations behind the introduction of digital technologies to have been largely or completely fulfilled. However, one out of three CABs find them only partially met.
- The fulfillment of expectations varies across countries: Italian and Brazilian CABs are the most satisfied ones in contrast to those in West Africa and New Zealand.
- For 5% of the CABs, the expectations are not fulfilled at all. However, only one in ten CABs is pessimistic that this will remain the case.

Lack of time and complexity of the topic are the biggest hurdles to digital transformation

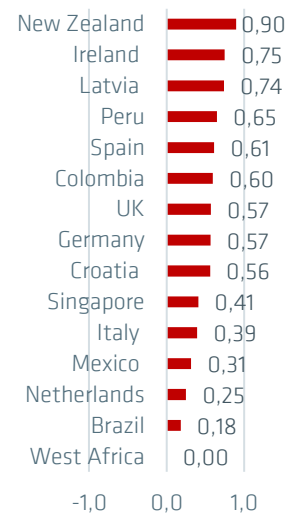
Hurdles to digital transformation (n=1404)



Lack of financial resources



Complexity of digitalization processes



- Time constraints in mastering the digital transformation are the biggest hurdle for CABs, followed by the general complexity of the topic.
- A lack of financial resources and technical aspects such as a lack of standards and/or interfaces and a lack of compatibility are also viewed as obstacles.

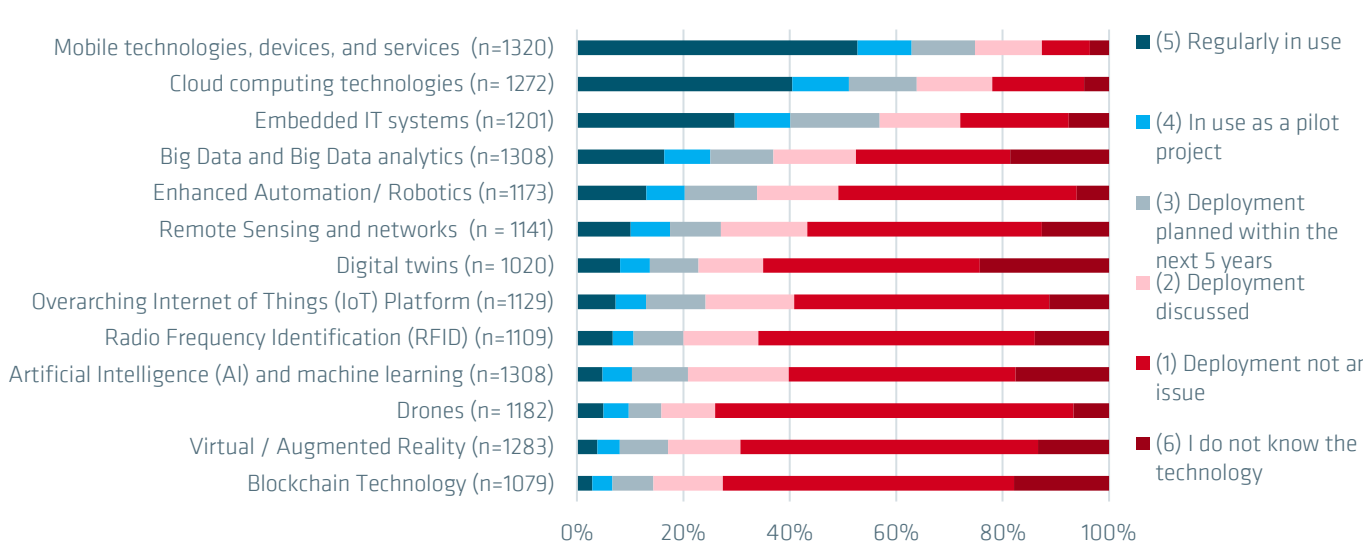
Digital Technologies and Trends

This section captures the actual (or planned) use of concrete digital technologies and applications in the CABs. In addition, the use of remote procedures and technologies is presented.

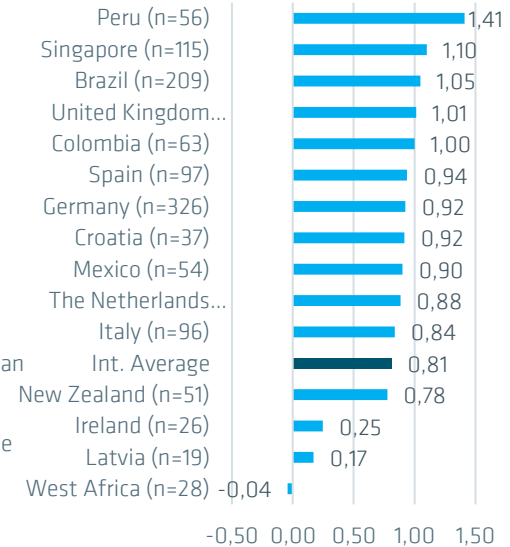
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Latest digital technologies are not yet widely used in CABs

Advanced digital technologies in use or planned to be used (n=1320)



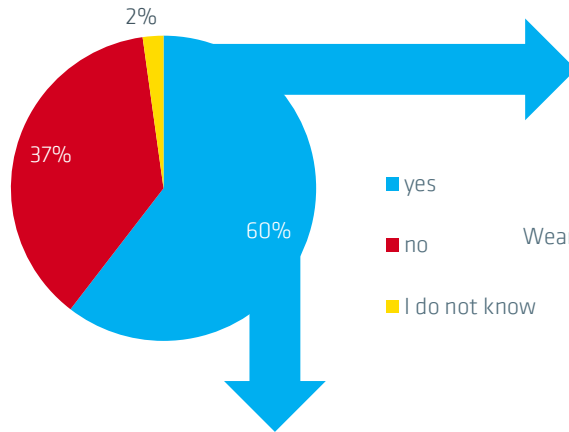
Technology use / awareness score



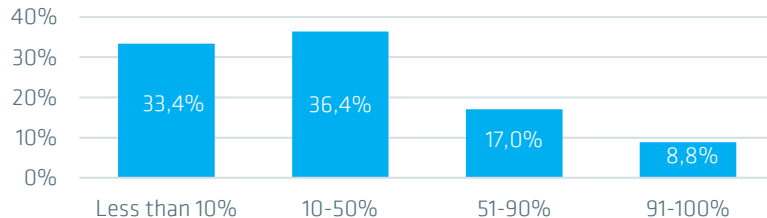
- Despite their increasing relevance, the latest digital technologies such as blockchain, artificial intelligence, virtual reality and big data analytics are only used to a limited extent in CABs.
- Blockchain technologies are unknown to 28% of respondents, and digital twins are unknown to 25% of respondents.
- Mobile technologies are most widely used by CABs, followed by cloud computing and embedded IT systems.

Remote methods and technologies are used by more than half of the CABs

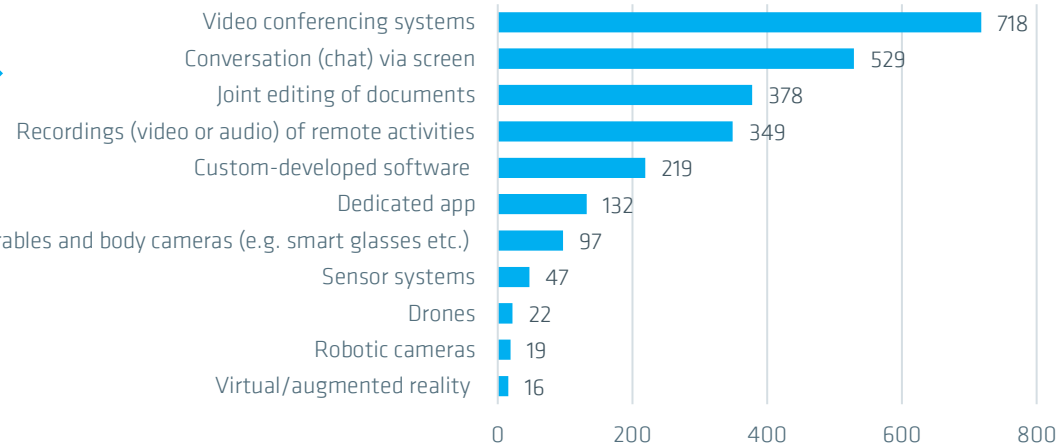
CABs that use remote methods in CA (n=1316)



Share of CA services take implemented remotely (n=599)



Technologies used for remote procedures (n=780)

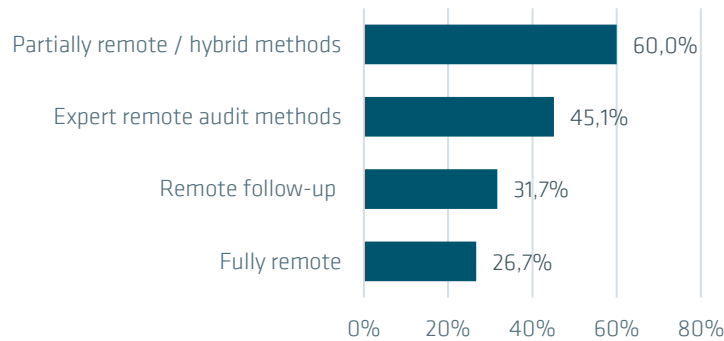


- 60% of the CABs use **remote methods** in their CA activities.
- One in three CABs only performs a maximum of 10% of their activities remotely. Only 10% of the CABs have already switched completely.
- Video conferencing systems are the most commonly used **tool for remote working**, followed by digital conversation (chat).

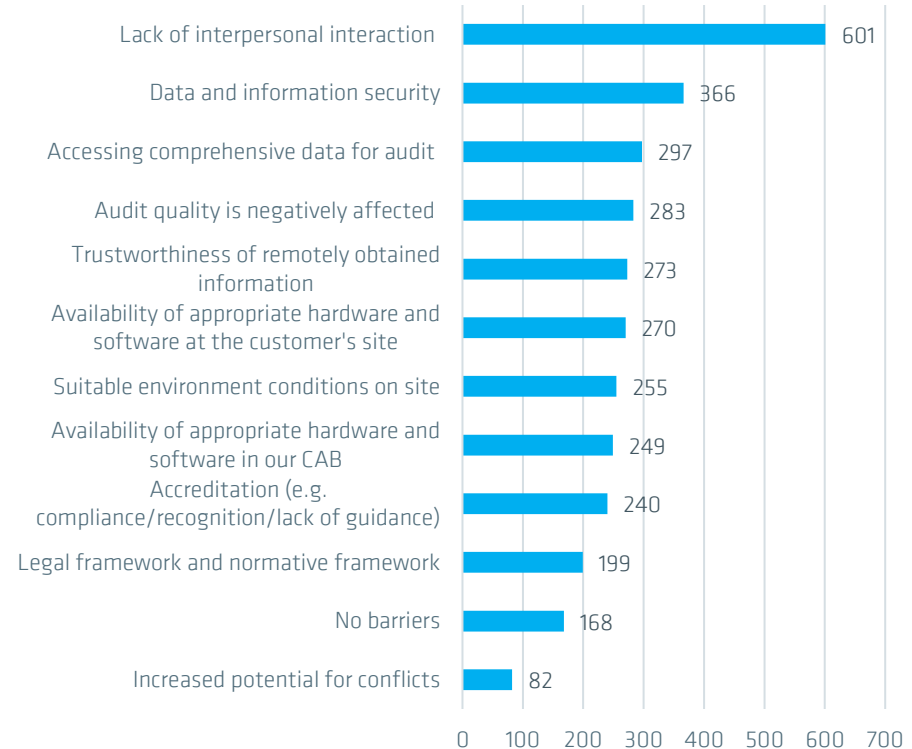
Diverse approaches used and experienced hurdles in remote procedures

Barriers (n=1297)

Type of remote procedures used
(n=790)

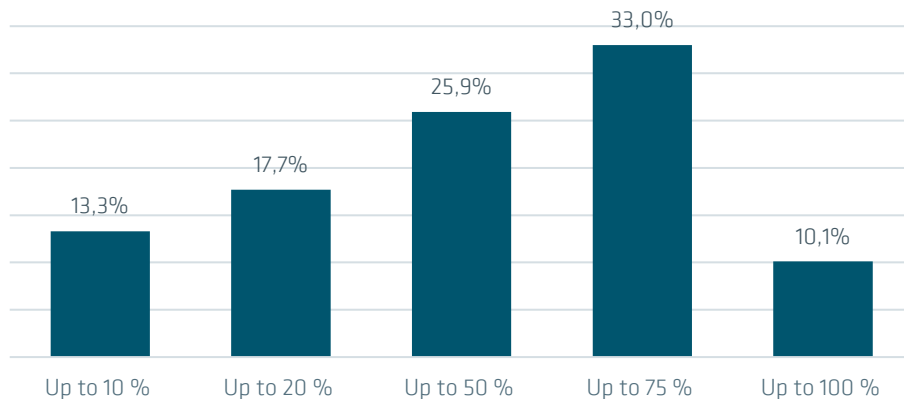


- **Hybrid methods** are the predominant type among remote methods used by CABs.
- Lack of interpersonal interaction and data and information security are considered to be the biggest **hurdles** to the use of remote procedures.

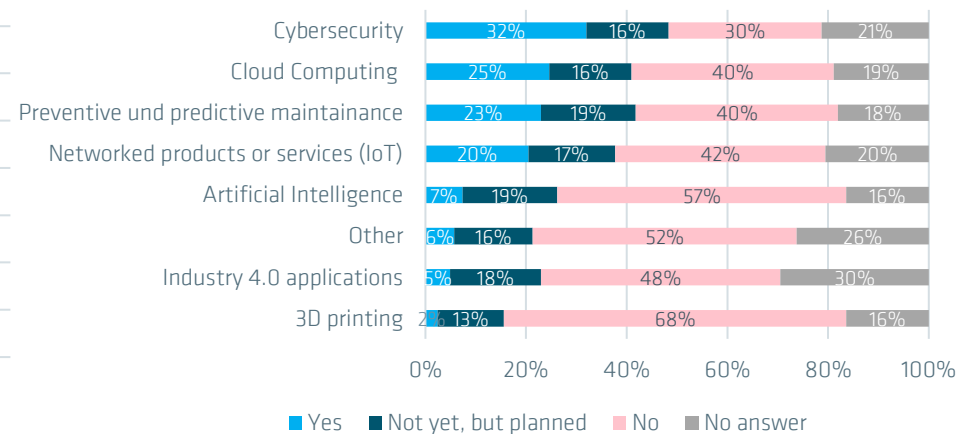


CA for advanced digital technologies is only performed by a minority of CABs so far

Share of routine processes that are digital (n=1316)



Digital products and applications for which CA is conducted (n=1303)



- 69% of the CABs have digitalized more than half of their **routine processes**. 13% has not even digitalized 10% of their processes.
- 44% of the surveyed CABs conduct **conformity assessments for modern digital technologies and applications**. In focus: cybersecurity (32%) and cloud computing (25%).

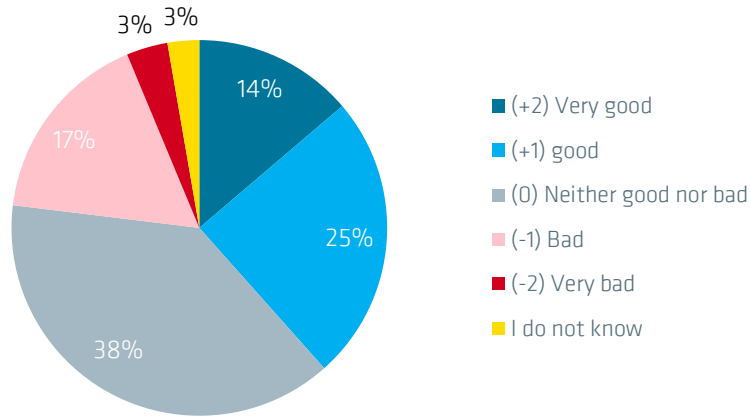
Digitalization and the COVID-19 Pandemic

This section investigates the role of digitalization in responding to the challenges posed by the COVID-19 pandemic and the impact of the pandemic on digitalization.

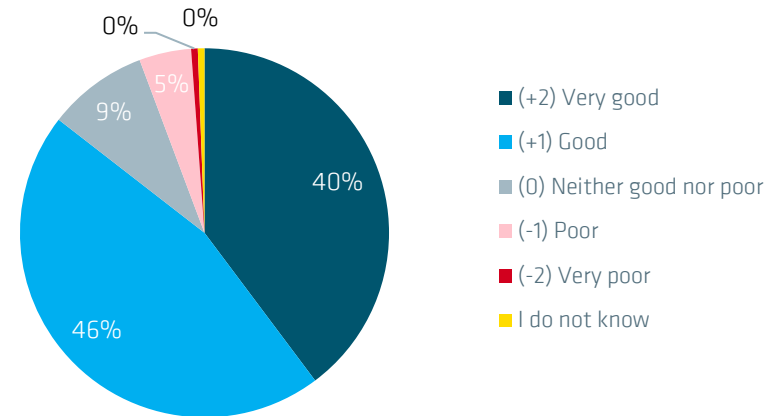
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Most CABs have coped well with the COVID-19 pandemic

CABs' order situation in 2021 compared to pre-COVID-19 period (n=1322)



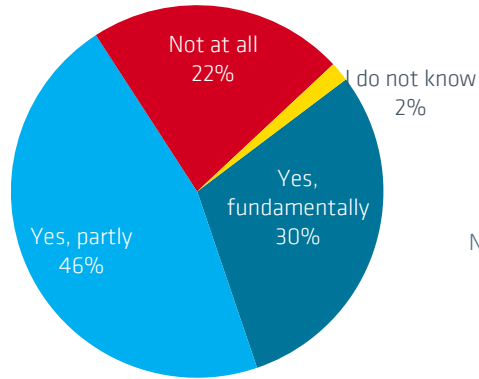
Response to the challenges of the COVID-19 pandemic (n=1207)



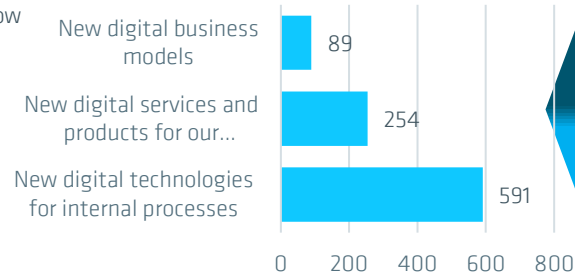
- For 38% of the CABs, the perceived **economic situation** in terms of order development in 2021 was not better or worse than before the pandemic. Nearly the same number of CABs has actually seen their order situation improve, and 20% of the CABs stated that their orders have declined.
- The majority of CABs (86%) reported that they had responded well or very well to the challenges associated with the COVID-19 pandemic.

Pandemic and digitalization

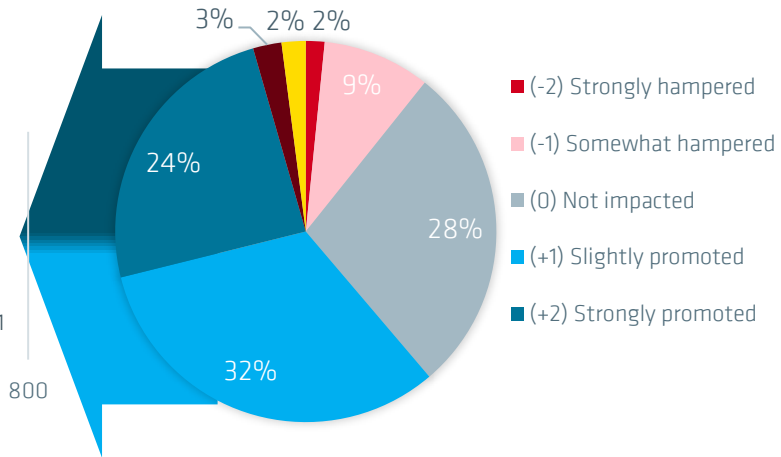
Digital technologies have helped coping with challenges of the COVID -19 pandemic (n=1295)



Introduced in the course of the corona pandemic (n= 751)



Impact of the Covid-19 pandemic on the digitalization of CABs (n=1323)



- For 76% of the CABs, digital technologies have helped in coping with the challenges of the COVID-19 pandemic.
- The majority of the CABs (56%) reports that digital transformation has been slightly or even strongly encouraged: 79% of CABs have introduced new digital technologies for internal processes, 34% new digital services and products for their customers, 12% even new digital business models.

- CABs worldwide clearly see digital transformation as an opportunity. The **level of digitalization** varies greatly.
- 5% of CABs are still at an early stage of maturity.
- Even though digital transformation is an individual project for each organization, **typical patterns of digital maturity** in the CA industry are nevertheless confirmed: digitalization is given a central place in the corporate strategy and there is an initial strong technological focus, followed by holistic organizational transformation, including change management and strong innovation networks.
- It is striking that many **cutting-edge digital technologies** - that are on everyone's lips as buzzwords - have not yet found their way into application in CABs. Blockchain, Artificial Intelligence, and Big Data Analytics are only used by a few; many are not yet aware of the technologies and their potential.
- With their digitalization efforts, the CABs primarily aim for internal process improvements. Routine processes are increasingly being digitalized, and there is a switch to - mostly hybrid - remote processes.

Global status and trends in Digital Transformation and Conformity Assessment

We have conducted the survey on digitalization in conformity assessment in 15 countries worldwide. The individual country reports and a final comparative study are published on our website. Furthermore articles and an extensive report with further detailed analyses are planned.

➔ www.qi-fokus.de



This study was developed in the context of the QI-Digital initiative. Its goal is to develop solutions for a modern digital quality infrastructure (QI) - together with stakeholders from business, politics, science, and QI.

More information on the initiative and the opportunities for participation can be found at

➔ www.qi-digital.de

The Project



Project partners



Supported by



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QI-FoKuS stands for **Qualitätsinfrastruktur - Forschung für Konformitätsbewertung und Sicherheit** ("Quality Infrastructure - Research for Conformity Assessment and Safety").

The initiative was launched jointly by BAM and TU Berlin in 2019 and is supported by the Federal Ministry of Economic Affairs and Climate Action.

We conduct studies on current and fundamental topics of conformity assessment and accreditation. The studies are based on our comprehensive surveys of companies and in particular conformity assessment bodies in Germany and abroad. By publishing the results, we contribute to an improved database, scientifically sound findings and the identification of trends in quality infrastructure.

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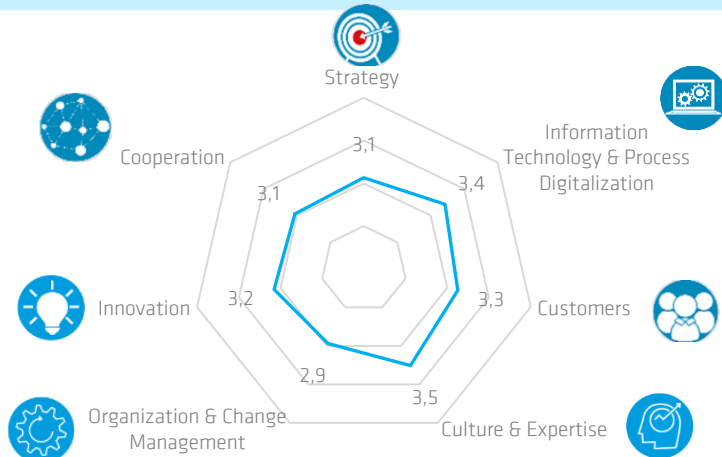
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Appendices

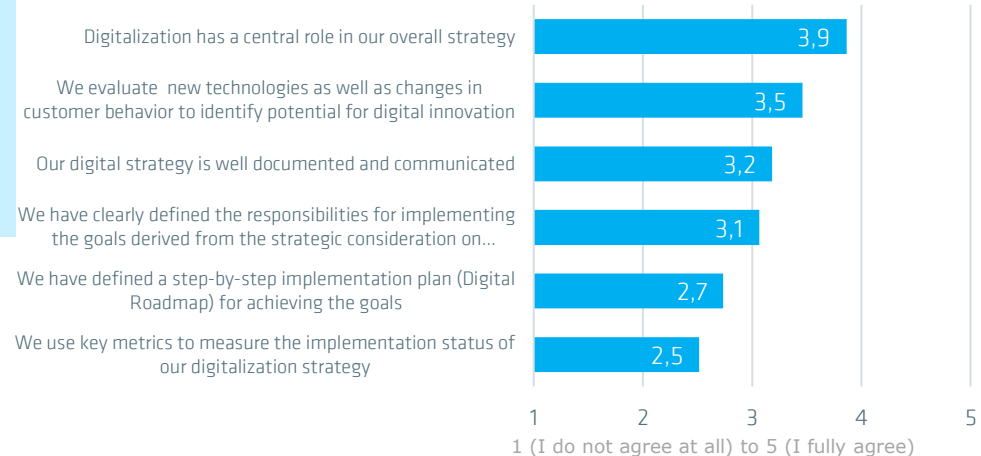
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Dimensions of digital maturity: Detailed overview

Each dimension of the maturity model consists of 4-6 criteria that describe its content. This includes, for example, relevant skills and resources. The survey participants were presented with corresponding statements for agreement on a 5-point scale (from 1 - I do not agree at all - to 5 - I fully agree). These values form the basis for calculating the digital maturity. The average results for the individual criteria in all dimensions are presented in detail below.



Strategy (n=1288)

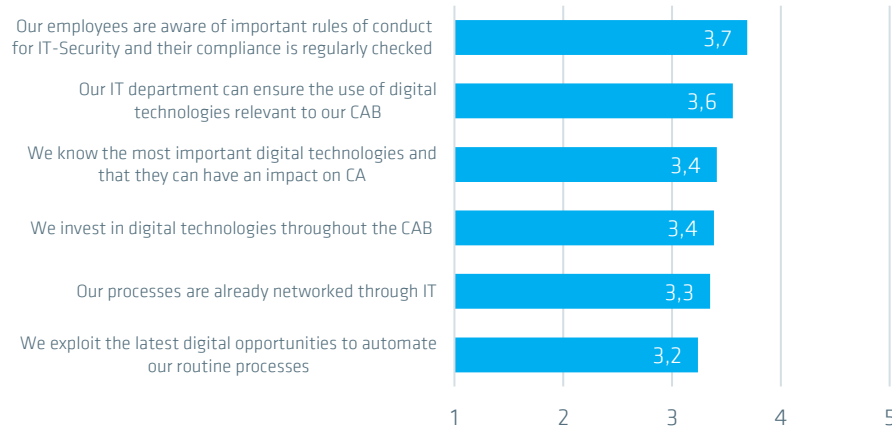


- In most CABs (78%), digitalization plays a central role in their overall strategy, with 71% having a well documented digital strategy.
- Only 54% have created an implementation plan (digital roadmap) for achieving the set goals and less than 50% use key performance indicators to measure the status of implementation of their digital strategy.

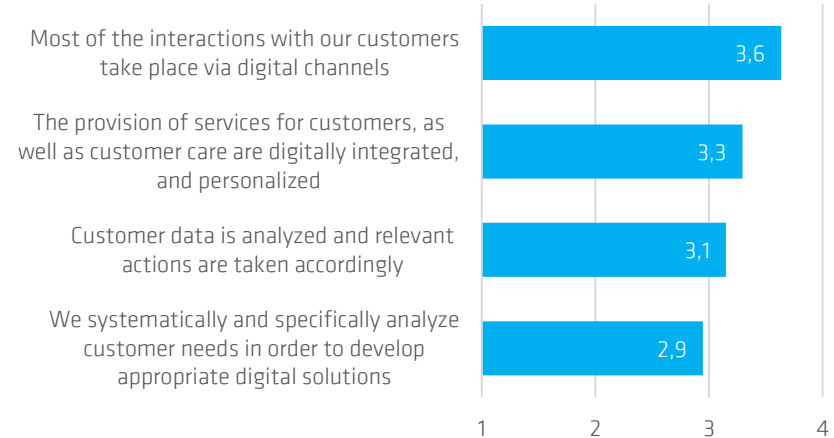
Dimensions of digital maturity: Detailed overview



IT & Process Digitalization (n=1279)



Customers (n=1262)



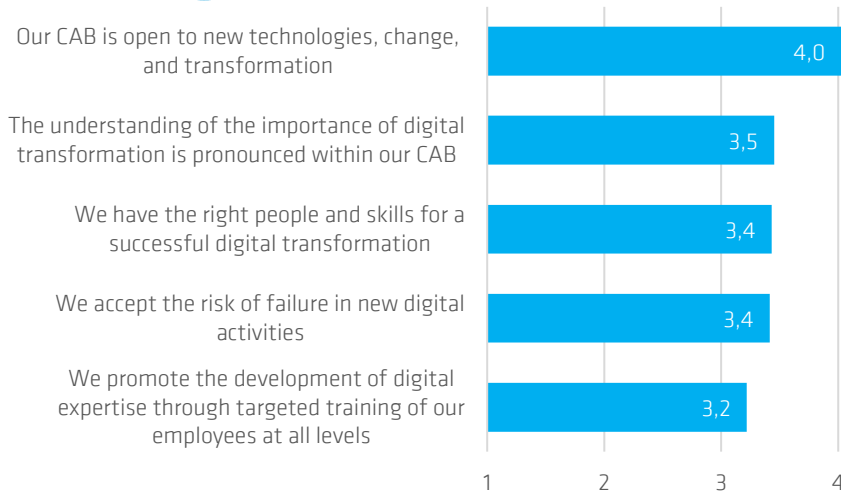
- At least 74% of CABs are aware of, invest in and are able to use digital technologies properly while complying with IT security regulations.
- More than 66% of CABs have networked their processes and automated routine procedures.

- 72% of CABs interact with their customers via digital channels.
- However, a lower share of CABs (66%) offer digitally integrated services to customers, and only 62% of them develop appropriate digital solutions based on customer needs.

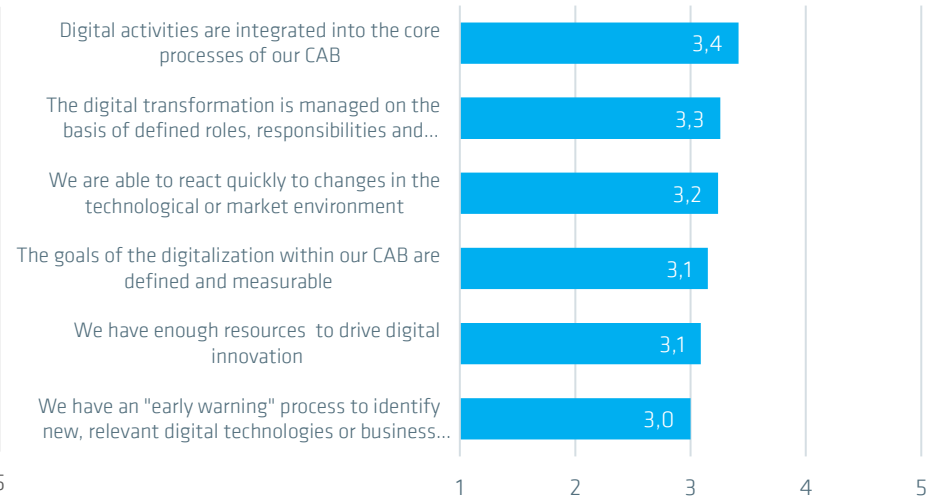
Dimensions of digital maturity: Detailed overview



Culture & Expertise (n=1284)



Organization & Change Management (n=1276)



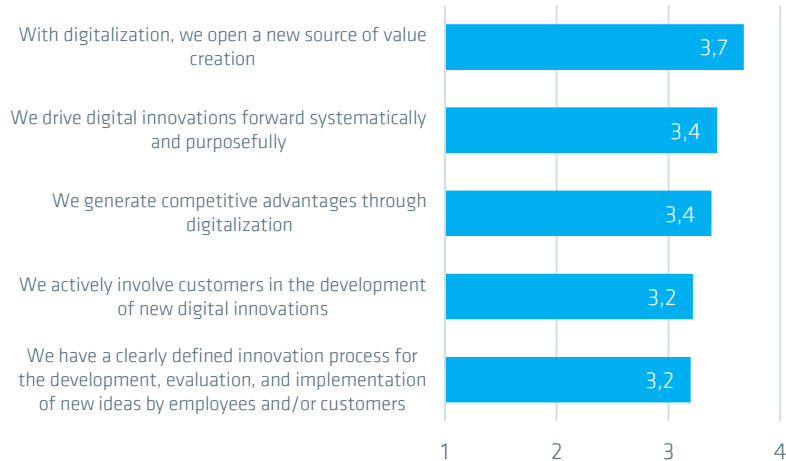
- CABs are open to new technologies, changes and transformations (80%).
- 68% of them have a strong understanding of the importance of digital transformation and have the right skills to successfully implement the change.

- 68% of CABs have integrated digital activities into their core processes. The clear definition of responsibilities and strategic goals is key to the implementation of digital transformation.

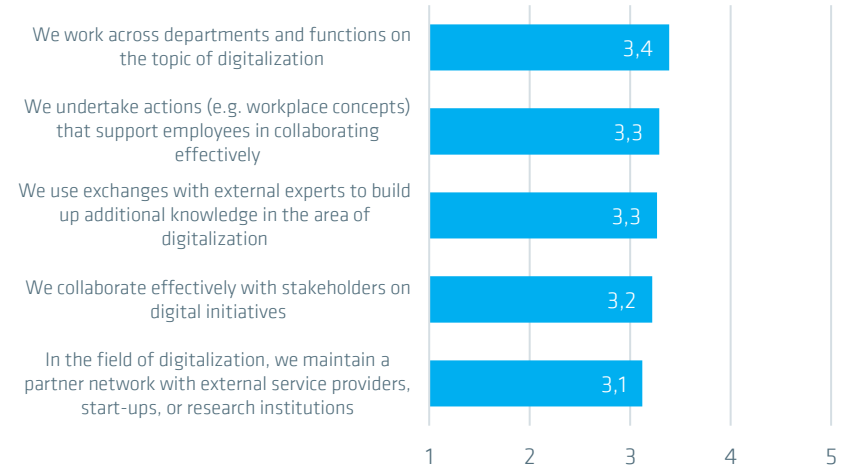
Dimensions of digital maturity: Detailed overview



Innovation (n=1268)



Cooperation (n=1269)



- For the majority of participants (74%), digitalization represents a new source of value creation and creates competitive advantages.
- However, customers are hardly involved in the innovation process.

- The majority of CABs (68%) work across departments and functions on the topic of digitalization and obtain additional knowledge by consulting external experts.
- Collaboration with stakeholders of the CAB is less intensive. Only 62% maintain a partner network with external parties.

Digital Maturity Model Cluster 1 (Beginner)

Description Level 1: Beginner

Dimensions



Digitalization has a central role in our overall strategy

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Our employees are aware of important rules of conduct for IT Security and their compliance is regularly checked

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Our CAB is open to new technologies, change and transformation

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With digitalization, we open a new source of value creation

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Strategy



IT & Process Digitalization



Customers



Culture & Expertise



Organization & Change Management










Innovation



Cooperation








Digital Maturity Model Cluster 2



Description Level 2	Dimensions						
							
We evaluate new technologies as well as changes in customer behavior to identify potential for digital innovation	■						
Our processes are already networked through IT		■					
We know the most important digital technologies and that they can have an impact on CA		■					
We invest in digital technologies throughout the CAB		■					
Our IT department can ensure the use of digital technologies relevant to our CAB		■					
Most of the interactions with our customers (e.g., advise, purchase conclusion and customer service) take place via digital channels			■				
The provision of services for customers, as well as customer care are digitally integrated, and personalized			■				
The understanding of the importance of digital transformation is pronounced within our CAB				■			
We have the right people and skills for a successful digital transformation				■			
We accept the risk of failure in new digital activities				■			
Digital activities are integrated into the core processes of our CAB					■		
We work across departments and functions on the topic of digitalization							■










Digital Maturity Model Cluster 3

Description Level 3	Dimensions						
							
Our digital strategy is well documented and communicated	■						
We exploit the latest digital opportunities to automate our routine processes		■					
Customer data is analyzed, and relevant actions are taken accordingly			■				
We promote the development of digital expertise through targeted training of our employees at all levels				■			
We drive digital innovations forward systematically and purposefully						■	
We generate competitive advantages through digitalization							■
We use exchanges with external experts to build up additional knowledge in the area of digitalization							■
We undertake actions (e.g. workplace concepts) that support employees in collaborating effectively							■



Strategy IT & Process Digitalization Customers Culture & Expertise Organization & Change Management Innovation Cooperation

Digital Maturity Model Cluster 4

Description Level 4	Dimensions						
							
We have clearly defined the responsibilities for implementing the goals derived from the strategic consideration on digitalization	■						
We systematically and specifically analyze customer needs in order to develop appropriate digital solutions			■				
The goals of the digitalization within our CAB are defined and measurable					■		
The digital transformation is managed on the basis of defined roles, responsibilities and decision-making processes					■		
We are able to react quickly to changes in the technological or market environment					■		
We have enough resources to drive digital innovation					■		
We collaborate effectively with stakeholders on digital initiatives							■



Strategy



IT & Process Digitalization



Customers



Culture & Expertise



Organization & Change Management



Innovation



Cooperation

Digital Maturity Model Cluster 5 (Expert)

Description Level 5: Expert	Dimensions						
							
We use key metrics to measure the implementation status of our digitalization strategy	■						
We have defined a step-by-step implementation plan (Digital Roadmap) for achieving the goals	■						
We have an "early warning" process to identify new, relevant digital technologies or business models for us				■			
We actively involve customers in the development of new digital innovations					■		
We have a clearly defined innovation process for the development, evaluation, and implementation of new ideas by employees and/or customers					■		
In the field of digitalization, we maintain a partner network with external service providers, start-ups, or research institutions							■

