Deloitte.

Deloitte Survey | Chat, Talk, Touch…

That's how companies interact with their customers

March 2019

With all the talk about Robotics & Cognitive and Artificial Intelligence (AI) technologies in business circles today, we wanted to see if three concrete solutions – **Chatbots, Voicebots and Biometrics** – are having any measurable impact and valuable use cases.

So we asked about 90 business leaders around the world to share their view with us.

#1 Experience

"User/ Customer Experience" is the most common benefit of all three AI solutions. Cost Savings are just ranked #2 or #3.

~5% live

Only 5% of respondents do have solutions live. But it can be observed that over ¾ of enterprises are getting to "Cool, we'll try it"!

67%

of respondents are using / planning to use Fingerprints followed by #2 Face (58%) and #3 Voice (55%).
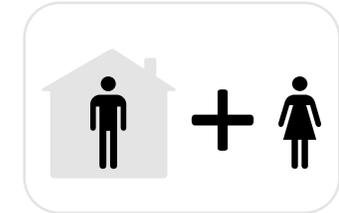
75%

indicated they will use Multi-Factor Authentication and a combination of several technologies to maximize security standards.

48%

reported "Customer Acceptance" as biggest challenge impacting a company's ability to use one of the three AI solutions.
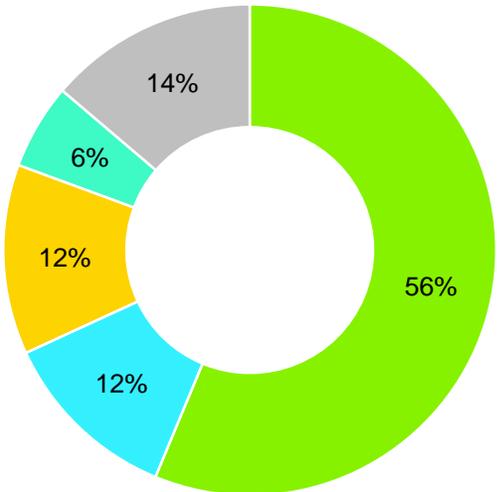
In & Out

Use cases and customer groups for Chatbots, Voicebots and Biometrics can be found internally and externally.
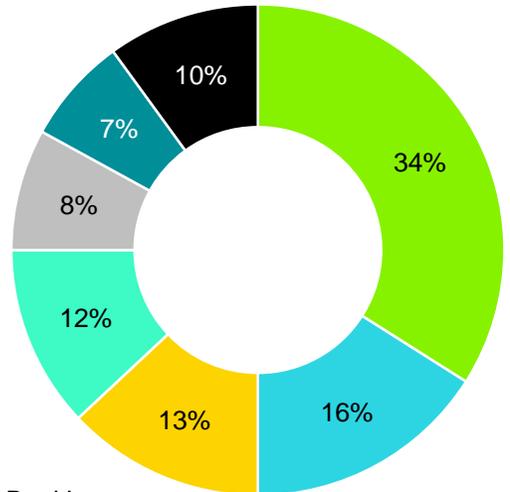
Respondent Profile

Nearly 60% of respondents are working in enterprises with over 50.000 employees.

Financial Services (Banking, Insurance and FSI Other) with 46% is the largest industry followed by TMT with 16%.
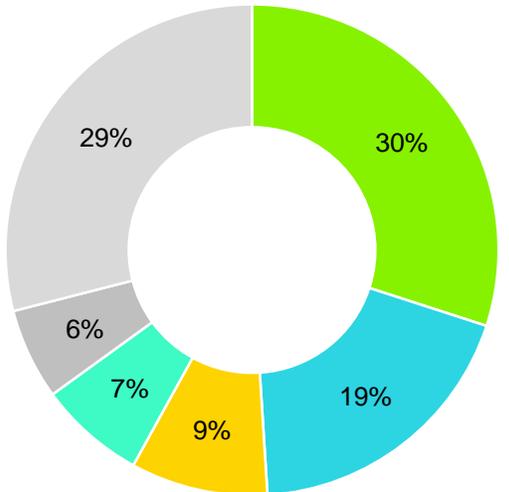
20 countries around the globe have taken part. 88% of respondents are from Europe.

- > 50.000 employees
- 5.001 to 50.000
- 1.001 to 5.000 employees
- 501 to 1.000 employees
- 0 to 500 employees

- Banking
- Telecommunications, Media & Technology
- Energy, Resources & Industrials
- Government & Public Services
- Insurance
- Consumer
- Other*

- Germany
- France
- Austria
- Switzerland
- Poland
- Other**

*) Other industries are "Life Sciences & Health Care", "Real Estate & Services" and "FSI Other"

**) Other countries are "Hong Kong", "UK", "Israel", "Russia", "Norway", "USA", "Ireland", "Mexico", "India", "Luxembourg", "Denmark", "Canada", "Australia", "Turkey", "Spain"

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"When the rate of change outside an organization exceeds the rate of change inside the organization, the end is near."

Jack Welch | CEO of GE

Technology leads are key drivers

Our experiences show that there is no standard answer on the question "Who is leading change?", so one of the first questions we have asked in this survey was looking at the Board area which is driving the use of Chatbots, Voicebots and Biometrics.
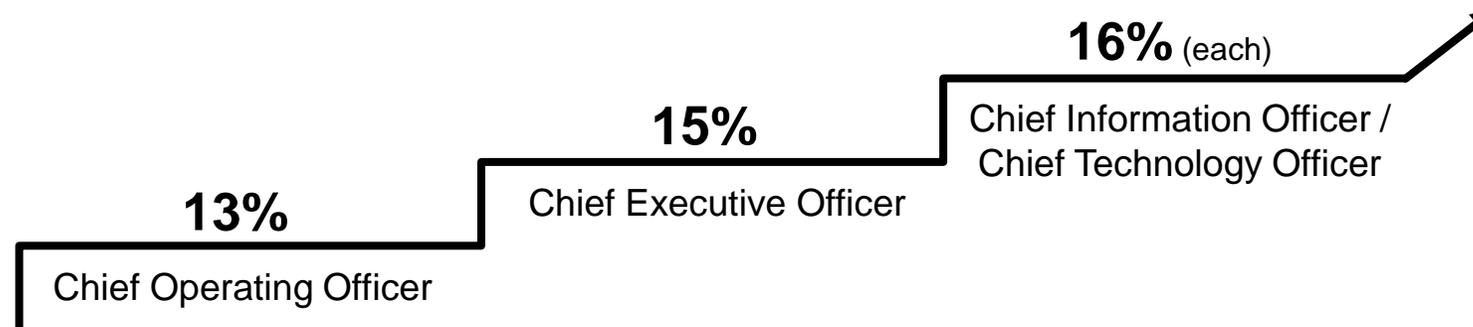
With 16% each, Chief Information Officers and Chief Technology Officers are equally leading the initiatives. Followed by the Chief Executive Officer with 15% and the Chief Operating Officer with 13%. Overall, Business and Technology need to collaborate closely to make AI solutions a success story.

Which Board area is leading the journey?

16% (each)
Chief Information Officer /
Chief Technology Officer

15%
Chief Executive Officer

13%
Chief Operating Officer

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Customer satisfaction is driving change

Ease of interaction, access, accuracy and quality of information provided are the most important attributes when it comes to customer satisfaction. "Many consumers expect virtually effortless transactions no matter who they are interacting with."[1] It is not surprising that, with this intense focus on user experience (over 70%) companies are leveraging artificial intelligence to change the way they interact with their customers.

Virtual assistants, such as Chatbots and Smart Speakers (e.g. Amazon Alexa and Google Home) are becoming increasingly integrated into everyday life and nearly every smartphone user enjoys the ease of authentication using fingerprint. The second side of the coin is that companies want to reduce their operational efforts significantly and prioritize the realization of cost savings (approximately 66% of respondents).

"By 2020, the average person will have more conversations a day with bots than they do with their spouse"

L. HEATHER PEMBERTON | GARTNER

What is your motivation? | Top5 drivers

1	**2**	**3**	**4**	**5**
Provide a new user experience	Realize cost savings	Getting Digital and Reputation	Meet user expectations	Open a new channel

Multiple responses permitted.

[1] Source: 2017 Deloitte Global Contact Center Survey

Deloitte Survey "Chat, Talk, Touch"

Users are private, corporate & also internal

In fact, it is not surprising that most survey participants focus on their private customer segment when investing in Chatbot, Voicebot or Biometrics solutions. But it is interesting that many companies do also look on internal services. This can be seen across all industries. Virtual Assistants are supporting IT, customer service and various types of FAQs.

Especially, Financial Services Industry respondents note significant potential for applying Virtual Assistants (VA) in internal services. These results also correspond to Gartner[2]. In addition, other external stakeholders, e.g. suppliers, are also considered by a number of enterprises.

Who is in your focus? | Top3 customer segments

Private Customers

Corporate Customers:
Small & Medium Enterprises

Internal
Customers

Multiple responses permitted.

„You should get quick response. And it shouldn't take your full attention like a phone call would. And you shouldn't have to install a new app."

MARK ZUCKERBERG | FACEBOOK

[2] Source: https://www.itweb.co.za/content/dgp45qaGmxW7X9l8

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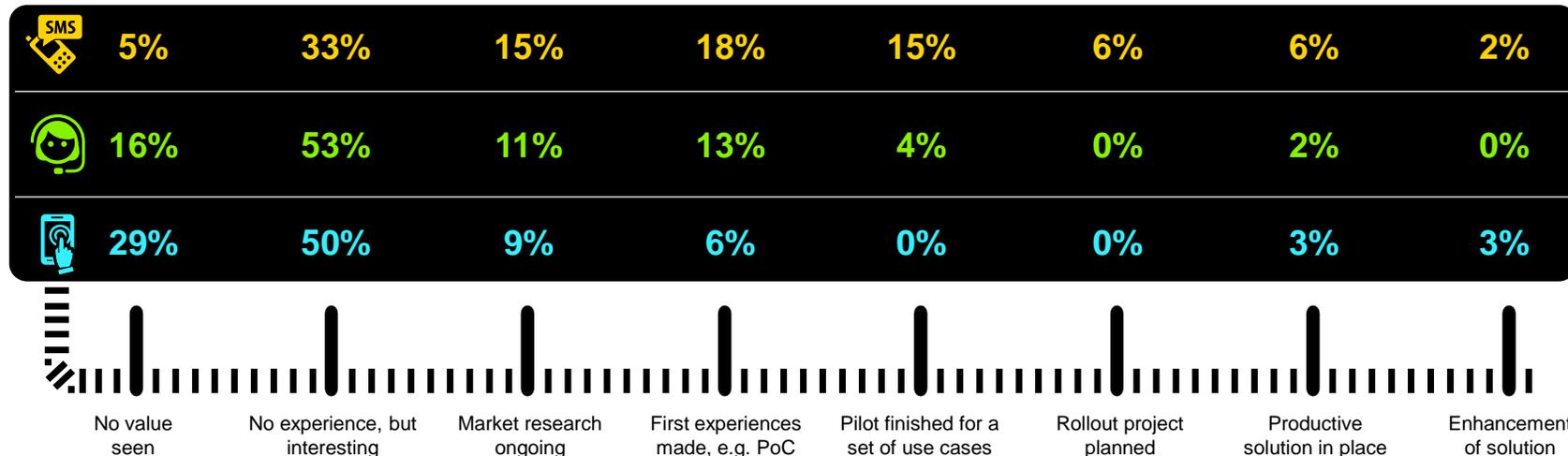
First steps have been made

Although a number of successful examples for larger scale solutions are seen on the market, Chatbots, Voicebots and Biometrics are still not common. Over 70% of our respondents have started or will start their projects in 2018 and 2019.

solutions the current acceptance and satisfaction levels are rated pretty low with strong uplift in the next five years. Chatbots are the most mature technology, but the importance of voice has been recognized by over 75% of respondents.

What's your experience? | Chatbots, Voicebots & Biometrics

	No value seen	No experience, but interesting	Market research ongoing	First experiences made, e.g. PoC	Pilot finished for a set of use cases	Rollout project planned	Productive solution in place	Enhancement of solution
SMS (Chatbots)	5%	33%	15%	18%	15%	6%	6%	2%
Voicebots	16%	53%	11%	13%	4%	0%	2%	0%
Biometrics	29%	50%	9%	6%	0%	0%	3%	3%

"Based on the results of the 2018 Gartner CIO Survey, only 4% of enterprises have currently

deployed a conversational interface such as a chatbot or virtual assistant."

GARTNER

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Acceptance & Satisfaction are increasing

The rating of respondents illustrates that more trust in Chatbots, Voicebots and Biometrics needs to be built up. Today all three AI solutions in our focus have Acceptance and Satisfaction Levels of 2 (out of 5) points. The acceptance level of Chatbots is slightly higher.
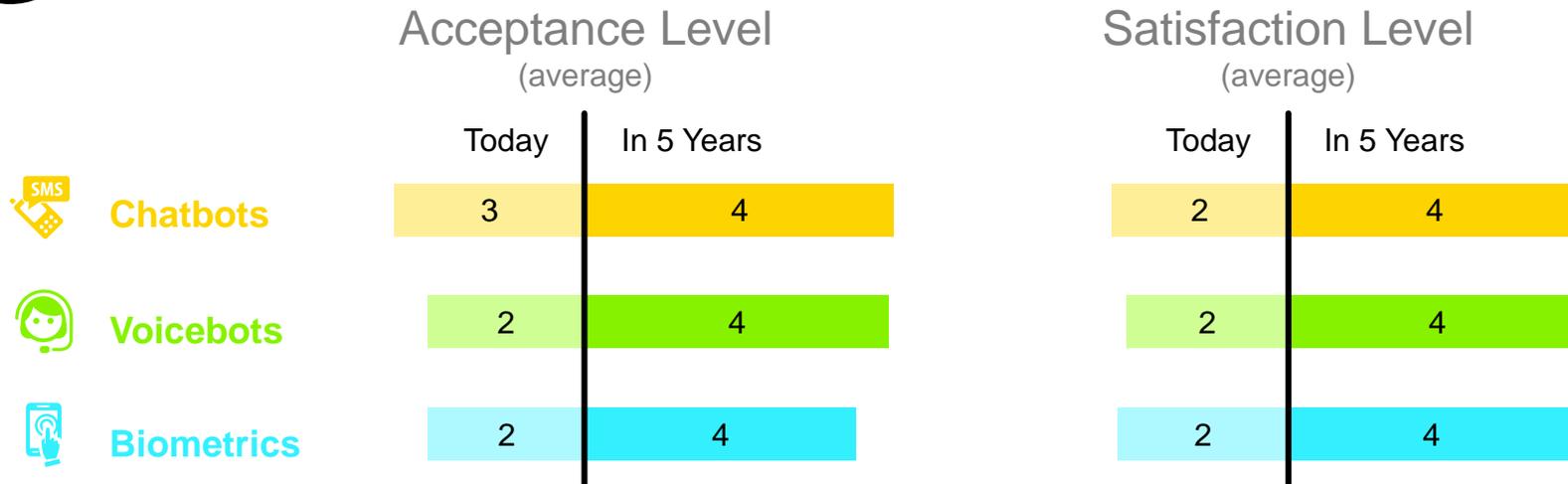
There is also no significant difference between external & internal customers. Yet, the outlook of survey participants for all levels & technologies is positive. Enterprises should investigate their potential for these technologies, as they will gain importance in the next years.

Acceptance & Satisfaction Levels | Today & In 5 Years

Acceptance Level
(average)

	Today	In 5 Years
Chatbots	3	4
Voicebots	2	4
Biometrics	2	4

Satisfaction Level
(average)

	Today	In 5 Years
Chatbots	2	4
Voicebots	2	4
Biometrics	2	4

„A computer would deserve to be called intelligent if it could deceive a human into believing that it was human."

ALAN TURING | MATHEMATICIAN, COMPUTER SCIENTIST

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Chatbots are integrated in existing portals

Customers are increasingly demanding instant forms of communication – messaging apps and social media have replaced emails and phone calls – especially in personal life. Chatbots can bridge the service and communication gaps between an enterprise and its customers.
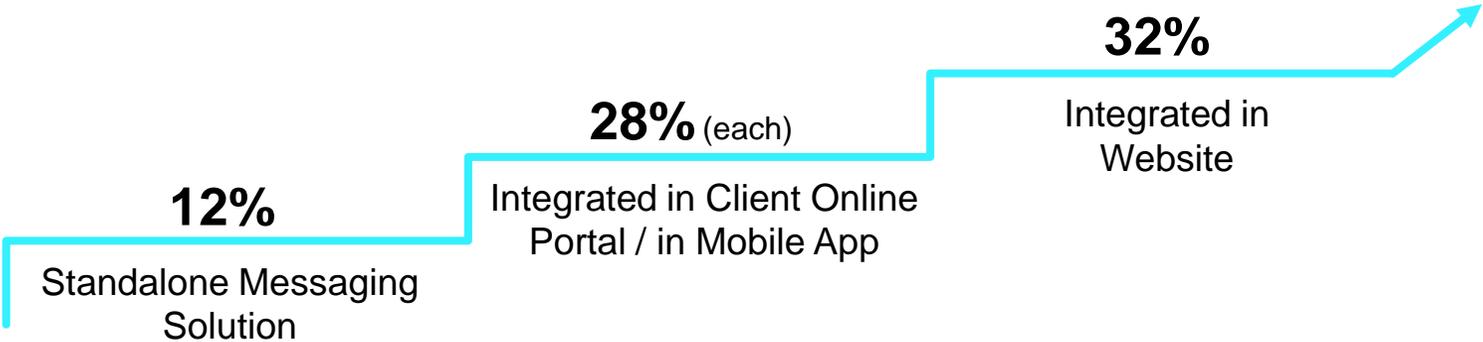
They are available throughout the day (and night), are data driven – therefore usually integrated in Websites (38%), Client Portals and Mobile Apps (both 28%) – and provide reliable and accurate information. These solutions are scalable and enable a richer customer experience.

Where to chat? | Top3 chat channels

12%
Standalone Messaging Solution

28% (each)
Integrated in Client Online Portal / in Mobile App

32%
Integrated in Website

Multiple responses permitted.

„Bots are like new applications, and digital assistants are meta apps or like a new browsers. And intelligence is infused into all your interactions. That's the rich platform that we have."

SATYA NADELLA | MICROSOFT

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Voice is on the rise

Processing the written word is much easier than voice but the quality of speech-to-text and text-to-speech solutions is rapidly increasing. The value seen by respondents in external and internal usage is pretty similar (both >80%). Compared to Chatbots, which are often applied internally first and then enrolled to external clients, Voicebots ar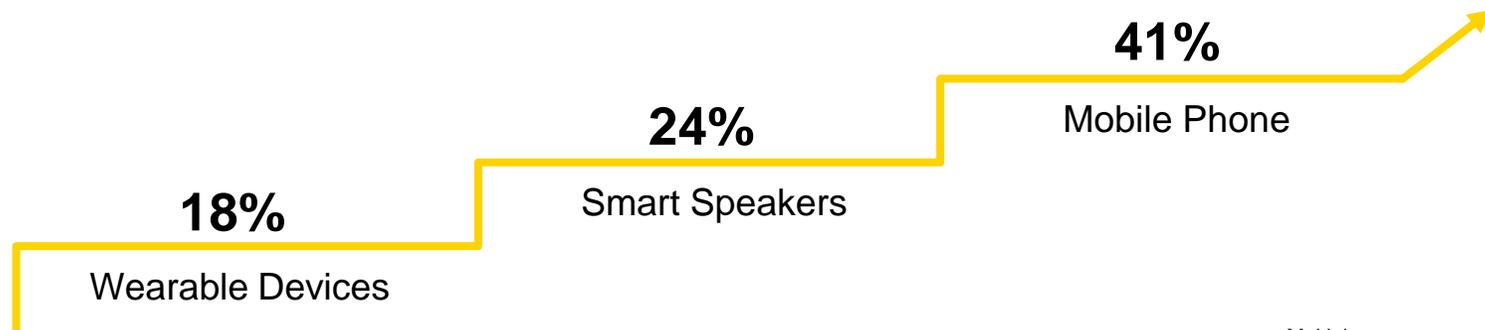e considered for external services first. But Gartner predicts that "by 2023, 25% of employee inter-actions with applications will be via voice. […] "We believe that the popularity of connected speakers in the home […] will increase pressure on businesses to enable similar devices in the work-place," says Van Baker, VP at Gartner."[2] Not surprisingly, Phones (41%), Smart Speakers (24%) and Wearable Devices (18%) are seen as Top3 voice channels.

„A low-cost, ubiquitous computer with all its brain in the cloud that you could interact with over voice – you speak to it, it speaks to you.“

JEFF BEZOS (on Alexa) | AMAZON

Where to talk? | Top3 voice channels

41%
Mobile Phone

24%
Smart Speakers

18%
Wearable Devices

Multiple responses permitted.

[2] Source: https://www.itweb.co.za/content/dgp45qaGmxW7X9l8   Deloitte Survey "Chat, Talk, Touch"
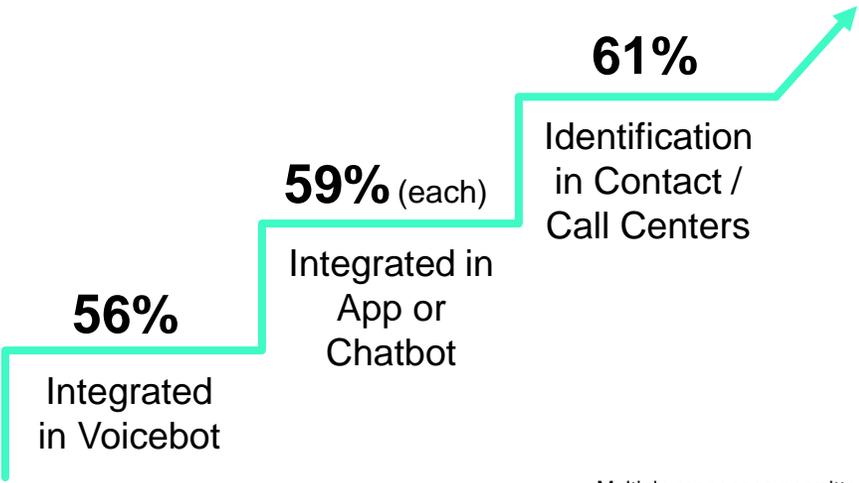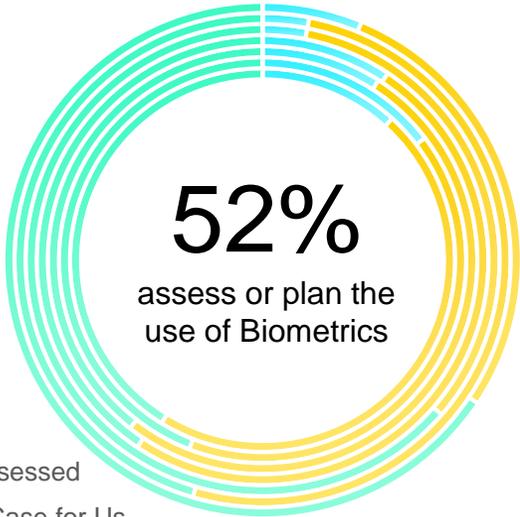
Value of Biometrics? Either a clear Yes or No

Use cases for biometric information as standalone solution or embedded in apps are seen by 52% of respondents. Above average are Government & Public Services with 67% and Insurance with 64%.

Interestingly, 55% think about biometrics in internal services (e.g. access points, workflow approvals). However, the Top3 channels are Contact/Call Centers (61%), App or Chatbots (both 59%) and Voicebots (56%).

Where to touch? | Top3 Channels to use Biometrics

52%

assess or plan the use of Biometrics

- Planned
- To be Assessed
- No Use Case for Us

56%

Integrated in Voicebot

59% (each)

Integrated in App or Chatbot

61%

Identification in Contact / Call Centers

Multiple responses permitted.

„The good thing about biometrics is that people are relieved from responsibility of design and remember a strong password – you don't have to remember your fingerprint, it's part of who you are."

DR. MIKHAIL GOFMAN | CSUF

Deloitte Survey "Chat, Talk, Touch"

Fingerprint, Face and Voice are the favorites

A person's Biometrics is unique and therefore one of the most secure ways to authenticate. The industry, which recognizes this value most (as of now), is FSI – especially Banks – directly followed by Government & Public Services. Not surprisingly, Fingerprints are the most used item, recognized by survey respondents. Others are gaining more and more attention and popularity, as technologies are improving. Face and Voice are getting pretty close and using Eye Scans is definitely not seen as science fiction. A number of respondents are starting assessments in this area. Our survey results highlight that the use of Biometrics is rising. According to Gartner, "By the end of 2020, of those enterprises using biometric methods, 70% will use some combination of face, voice and passive behavioral modes, in preference to fingerprint, up from less than 5% today."[3]

What to use? | Top5 Biometrics

1
Fingerprint

2
Face

3
Voice

4
Eye Scan

5
Finger Vein and Keystroke

Multiple responses permitted.

[3] Source: Technology Insight for Biometric Authentication, Gartner, 27 November 2018   Deloitte Survey "Chat, Talk, Touch"
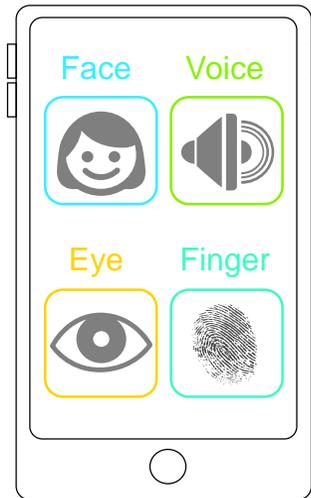
Apps as "one fits all" & Voice is everywhere

Where to use? |
Key Applications

The Allrounder
#1: Apps

The Allrounder
#2: Voice

Flexibility and multiple ways to use Biometric information is key. Gartner diversifies between Active and Passive Biometric modes. Face, Eye Scans and Fingerprints belong to the Actives, which "are characterized by discrete enrolment processes and distinct verification steps."[3] Biometrics in Apps is the most accepted and trusted way – especially for Active modes. Apps are suitable for nearly every Biometric information.

Voice is Passive, "characterized by "invisible" enrolment and evaluation that take place continuously during normal user interactions"[3] This explains its flexibility & large potential. Our survey also illustrates this – Voice is the only Biometrics, for which a larger number of respondents sees potential for Voicebots, Call / Services Centers as well as Apps – both, externally and internally.

„You will not need your wallet and the cards in it. Because they don't serve a purpose. They are not secure, they are not frictionless, and there is no guarantee that you are you."

CARYN SEIDMAN-BECKER | CLEAR

[3] Source: Technology Insight for Biometric Authentication, Gartner, 27 November 2018   Deloitte Survey "Chat, Talk, Touch"

Biometrics is trusted but not stand-alone

Although the general perception is that Biometrics is secure and reduces risks and fraud (59%), the feedback of our survey respondents illustrates that they do not trust only one solution and will mix it with other factors (63%). Most enterprises also give a choice to their customers and allow them to
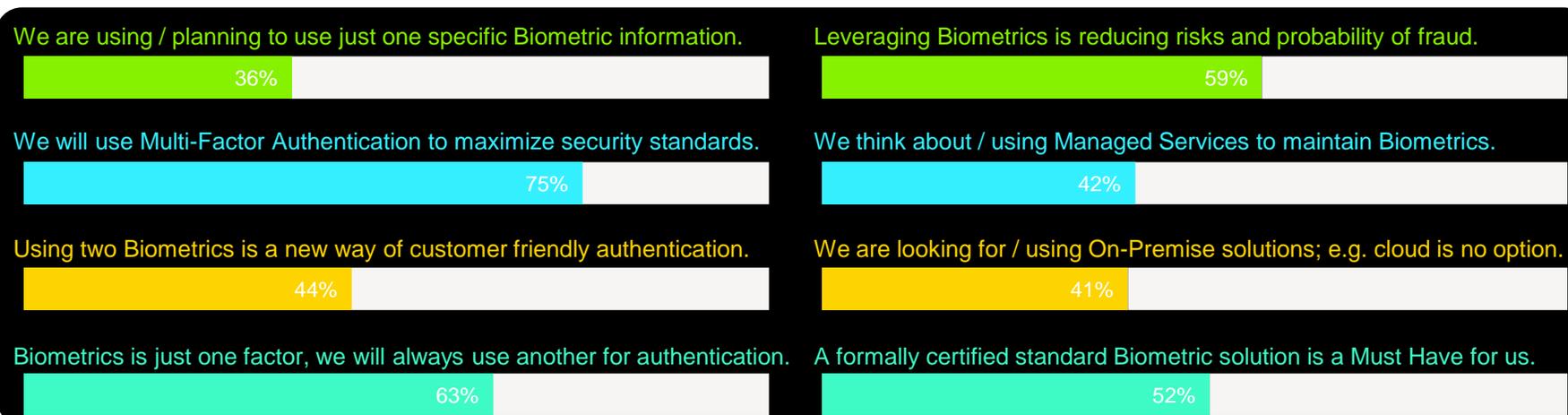
select between several Biometrics options (64%). 42% think about leveraging Managed Services with regards to Biometrics – a difference between Europe, where less than $\frac{1}{3}$ considers Managed Services, and the Rest of World can be noted. On-Premise vs. Cloud provides a similar picture.

✓ What do you think about Biometrics? | Where most say, "Yes"!

We are using / planning to use just one specific Biometric information.

| 36% |

We will use Multi-Factor Authentication to maximize security standards.

| 75% |

Using two Biometrics is a new way of customer friendly authentication.

| 44% |

Biometrics is just one factor, we will always use another for authentication.

| 63% |

Leveraging Biometrics is reducing risks and probability of fraud.

| 59% |

We think about / using Managed Services to maintain Biometrics.

| 42% |

We are looking for / using On-Premise solutions; e.g. cloud is no option.

| 41% |

A formally certified standard Biometric solution is a Must Have for us.

| 52% |

„Momentum is building and so many different industries are using biometrics now. In the past, there has been a lot of discussion about security, but it's more and more about convenience."

STEFAN K. PERSSON | PRECISE BIOMETRICS

Deloitte Survey "Chat, Talk, Touch"

Technical challenges are moderate

Chatbots, Voicebots & Biometrics

Technology Challenges

29%   32%   21%

Setup Challenges

42%   37%   37%

About 75% of survey respondents think that the three assessed solutions are already mature. Based on our experiences, technology is (esp. for large markets) definitely not the key challenge. When assessing vendors it is recommended to use platforms with flexible APIs to benefit from improved integration capabilities. Startups and niche players might have innovative features and often sound like a good option but could be an operational risk, if financial strength is not there.

Technical setup challenges (e.g. initial training data, audio files, learning, maintenance) are highlighted by a larger number of respondents. Especially, in strongly regulated markets, like Germany, where enterprises do often not have communication protocols supporting the initial training of bots, are facing higher implementation efforts.

Deloitte Survey "Chat, Talk, Touch"

„If there were machines which bore a resemblance to our bodies and imitated our actions as closely as possible for all practical purposes, we should still have two very certain means of recognizing that they were not real men."

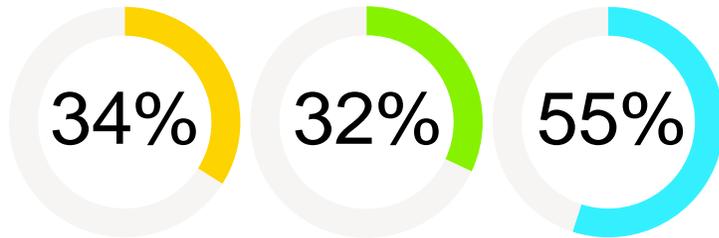**RENE DESCARTES | DISCOURSE OF THE METHOD**
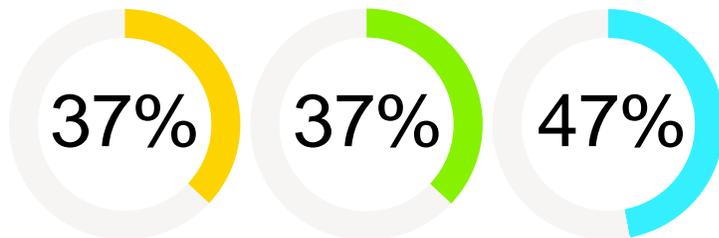
Security & Regulations needs to be managed

Chatbots, Voicebots & Biometrics

Regulatory Restrictions

34% 32% 55%

Data Security

37% 37% 47%

Legal and Regulatory compliance is one of the most crucial factors when applying one of the three AI solutions in our focus. There are several considerations to be made, e.g. on the General Data Protection Regulation (GDPR), which is restricting the use of Biometrics information and personal details, and on the Payment Services Directive (PSD2), when conducting payments.

Customers are looking for new experiences but are also concerned about privacy. Protecting personal data and clearing of sensitive information after a certain amount of time is key. We also observe that many companies (over 40%) are looking for on-premise & over 50% for formally certified (Biometrics) solutions (see page 15). Enterprises need to embed a multi-layer security strategy but should always balance against experience aspects.

„By 2019, use of passwords and tokens in medium-risk use cases will drop 55%, due to the introduction of recognition technologies."

GARTNER

Deloitte Survey "Chat, Talk, Touch"

Barriers in language & acceptance are there

Chatbots, **Voicebots** & **Biometrics**

Language Challenges

39% **47%** **5%**

Customer Acceptance

42% **55%** **47%**

Talking the customer's language is key to meet their expectations and providing new experiences. An enterprise's competence in Natural Language Understanding and Processing (NLU / NLP) is reshaping its options and ways of interaction and interfacing with customers. Biometrics is language –Independent, so challenges seen are very low. It can be recognized that in the market comparison, countries with specific language requirements, e.g. Israel, are facing higher barriers to build Chat-/ Voicebot solutions.

As also indicated by other survey questions (see page 9) the perception of the customer acceptance level is pretty low at the moment. The predictions show that this is going to change in the upcoming years and it is worth to invest in these solutions.

„I believe that at the end of the century the use of words and general educated opinion will have altered so much that one will be able to speak of machines thinking without expecting to be contradicted."

ALAN TURING | MATHEMATICIAN, COMPUTER SCIENTIST

Deloitte Survey "Chat, Talk, Touch"

Potential is seen across customer's lifecycle

Our survey also took a look at potential use cases for the three technologies in focus. Key customer

Chatbots, Voicebots & Biometrics

Where to apply?

lifecycle activities from onboarding, to support and retirement have been considered. Showing that in nearly every stage value is seen for Chat- & Voice-bots. Biometrics is currently of minor importance.

„Chatbots represent a new trend in how people access information, make decisions, and communicate."

CHRISTIE PITTS | VERIZON VENTURES

	SMS		
General information on products and services	86%	73%	19%
Entering, changing and terminating a contractual / business relationship	62%	50%	36%
Communicating claims	75%	61%	43%
Maintaining basic master data, e.g. address information, telephone number	86%	68%	43%
Managing transactions and consumption rate of services	54%	46%	35%
Providing recommendations on saving potential / cost reduction	79%	63%	36%
Providing Service Desk for Corporate Customers	79%	59%	26%
Providing Add-On Services and managing Cross-/ Up-Selling opportunities	63%	57%	30%

Deloitte Survey "Chat, Talk, Touch"

FSI is also moving into transaction services

A number of deep dive questions into the Financial Services Industry have been addressed. It can be noted that opening/closing of accounts, transactions including **Chatbots**, **Voicebots** & **Biometrics**

maintenance of related master data and the blocking of bank/credit cards are seen as valuable cases by approx. 60% of respondents. Also, advices are with about 50% of interest.

Where to apply? | Deep Dive into FSI

	SMS	🎧	📱
General market information, e.g. FX-rates, analysis of stock markets	47%	36%	8%
Opening and closing accounts, depots, etc.	67%	62%	67%
Blocking bank or credit cards	58%	58%	50%
Insights into transactions, account balances incl. spending analysis etc.	38%	42%	50%
Maintaining transaction-related master data and profile, e.g. money transfer limits	62%	58%	50%
Managing transactions like money transfer, orders (e.g. buying/selling of securities)	62%	67%	75%
Providing advise on investment opportunities, loan products etc.	50%	55%	33%

„Financial institutions must be able to deliver an easy to navigate, a seamless digital platform that goes far beyond a miniaturized online banking offering."

JIM MAROUS | AUTHOR

Deloitte Survey "Chat, Talk, Touch"

Internal use is definitely on the agenda

Besides external, also internal services and use cases have been assessed in our survey. Especially for HR and IT Service Desks significant Chatbot potential with 71% and 77% is seen by respondents. Voicebot potentials are rated lower but with 59% in HR and 66% in IT still at a high level. In comparison, Finance & Accounting SSC potential is moderate with 40% for Chatbots and 25% for Voicebots. Biometrics reaches 26% in HR and IT but potential is strongly driven by enterprise size.

Chatbots, Voicebots & Biometrics

Where to apply internally?

	SMS		
HR Service Desk	71%	59%	26%
IT Service Desk	77%	66%	26%
Finance & Accounting SSC	40%	25%	10%

„Automation is Voldemort: the terrifying fore nobody is willing to name.“

JERRY MICHALSKI | REX

Deloitte Survey "Chat, Talk, Touch"

It's not just about the tech

Get in Touch

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