



The potential of digital voice assistants in the care sector

March 2018

MÜCKE STURM | COMPANY
Management Consultants

Current trends in the health and care market have revealed challenges for market operators. The use of voice technology can represent a solution approach.

Current trends in health and care market

Demographic change in the care sector

- 50 %** | of women aged 75+ live alone¹
- 54 %** | Patients find individual solutions most important²
- 49 %** | Seniors are cared for in their own home by relatives³
- 90 %** | Elderly prefer to age at their own home⁴

Current market trends

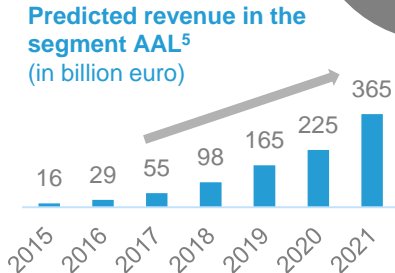
Digital Health

- Interlinking of devices
- Continuous **monitoring** of vital parameters through **wearables**
- The application of **telemedicine**, **social robots** and the implementation of **artificial intelligence**



Ambient Assisted Living

- The integration of **smart home** and **digital health** in AAL
- Simple **communication** with relatives and care givers
- Application to increase **security**



Voice as a new interface in health care

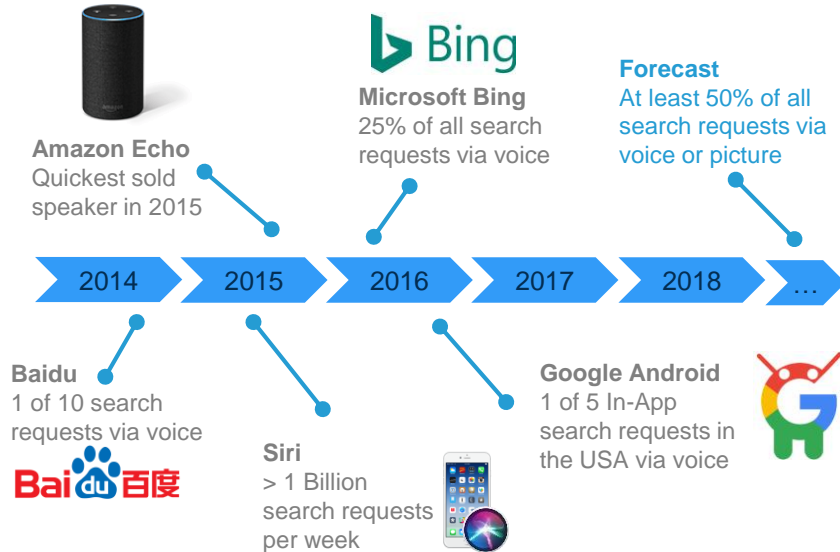
- Rise of **digital voice assistants**
- **Orchestration** of vital parameters and care data
- Complete treatment through **end-to-end-processes**
- Enable **connectivity** between care givers, relatives and patients



Over the last years, voice has become an essential part of search requests and gained great importance, especially within the elderly community.

Development of voice requests

Development of search requests via voice



Importance of voice for elderly people and care recipients

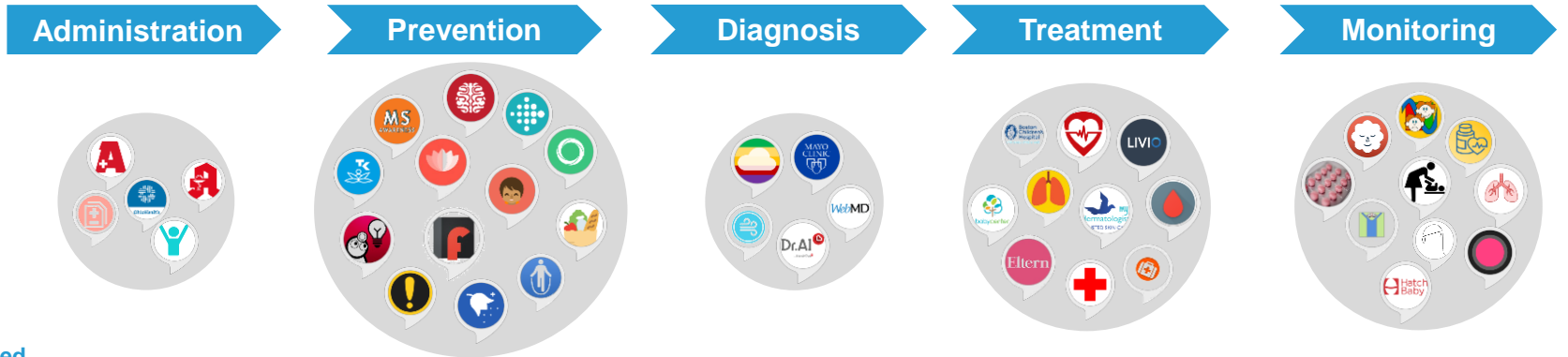
"The thing that's important about a conversation agent is we can talk to them in our actual voice, and they respond to us like people do."⁶

"Voice is becoming that next wave of how can we engage because it really means that we're lowering the friction for people to be able to interact with something."⁷

"After I tried Amazon Alexa for the first time I was really fascinated by the simplicity of the application. Until now I never got in contact with computers or the internet, but Alexa really convinced me."⁸

With regard to the health sector, digital voice assistants already offer multiple services along the complete healthcare value chain.

Overview of services (Echo skill examples)



Estimated market share⁹

10%

40%

10%

20%

20%

- Scheduling of doctor appointments
- Adaption of contractual documentations
- Information about pharmacies, doctors and hospital locations

- Fitness programs
- Healthy food guides
- Disease prevention guide
- Brain jogging

- Specific definitions of sickness based on individual information
- Detailed advice in case of an illness
- Telemedicine

- Medical management
- Proactive advice about your disease
- Treatment information about specific levels of vital parameters
- Holistic support and advice during pregnancy and becoming parents

- Online diaries for mental health, asthma, blood sugar, weight, baby activities, etc.
- Reminder about daily medications for the entire family
- Monitoring of chronic diseases in combination with smart devices

Besides multiple applications and services in the health sector, digital voice assistants also show great potential in the care sector.

Tasks of digital voice assistants in the care sector

Digital care assistant

Central touchpoint with easy and voice based controlling, storing of individual preferences and interests of the patients, orchestration of all functions



Communication



Audio or video communication with relatives or third parties e. g. doctors or care givers

Brain-jogging



Cognitive training to improve creativity, concentration, awareness and observation, as well as motion and coordination

Entertainment



Offering virtual games, music and reading messages / books to the person in need of care

Security

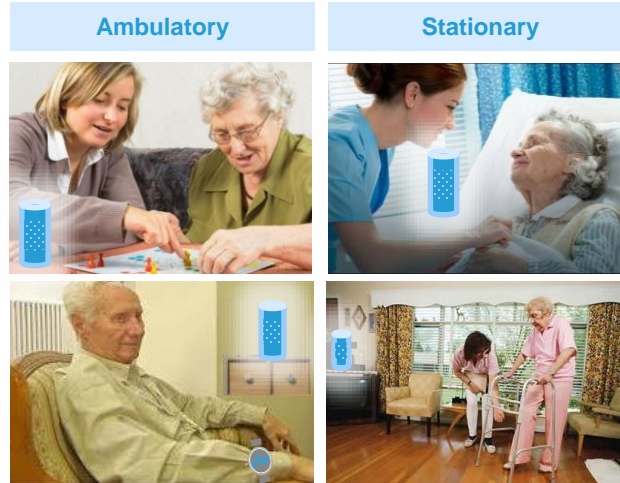


Identifying critical situations, initial first aid support and contacting third parties or emergency contacts

Self-organization



Reminder of events, meetings, medication and an aid in the decision making process



Smart Home



Automatic and voice based control of smart home applications and specific AAL systems

Information



Providing information about weather or private issues with saved answers

Care documentation



Voice based care documentation with relevant data for the caregiver e. g. personal healthcare procedures

Mobility



Increase in mobility by improved cross-linking of smart devices with an implemented fall detection system

The relevance of digital voice assistants in the care sector has also been addressed already by startups focusing on care specific assistants.

Care assistants by start-ups



ELLI-Q

- Social robot
- Phase: Re-Design of prototype
- Founded in 2016
- Headquarter: Ramat Gan (ISR)
- Voice interface
- Open ecosystem



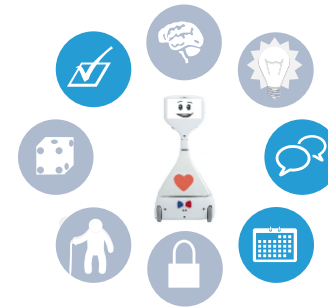
pillo

- Home health robot
- Phase: In-home user testing with prototype
- Founded in 2014
- Headquarter: New York (USA)
- Voice interface
- Open ecosystem



Mabu

- Home health robot
- Phase: In-home user testing with prototype
- Founded in 2014
- Headquarter: San Francisco (USA)
- Voice interface
- Open ecosystem



Cutii

- Companion robot
- Phase: In-home user testing with prototype
- Founded in 2015
- Headquarter: Roubaix (FR)
- Voice interface
- Open ecosystem
- Mobile



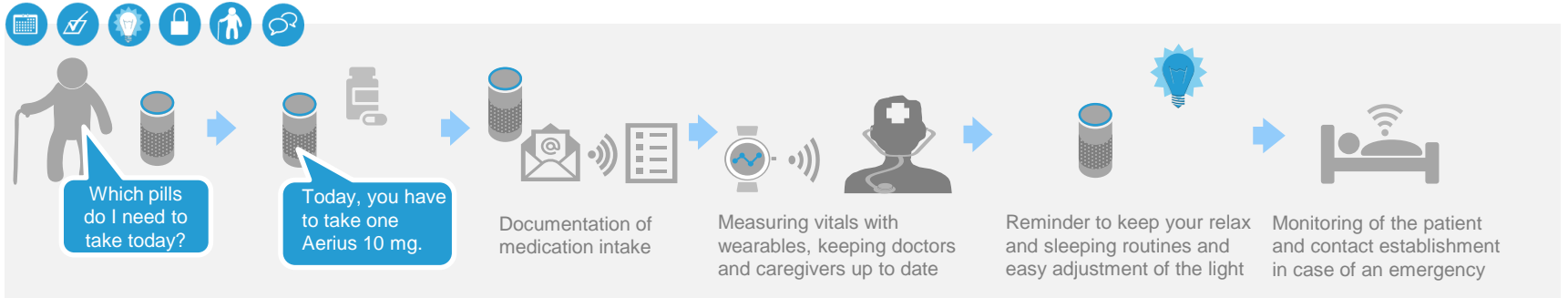
Buddy

- Companion robot
- Phase: Prototype
- Founded in 2014
- Headquarter: Ile de France (FR)
- Voice interface
- Open ecosystem
- Mobile

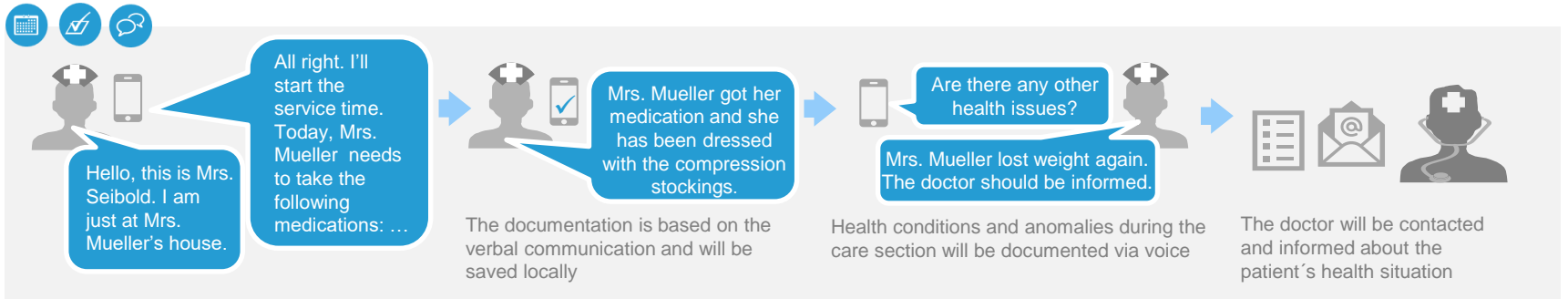
Due to its multifunctionality, voice enabled care assistants facilitate the daily life of patients, relatives and the care staff.

Benefits & use cases (selection)

Care support and controlling



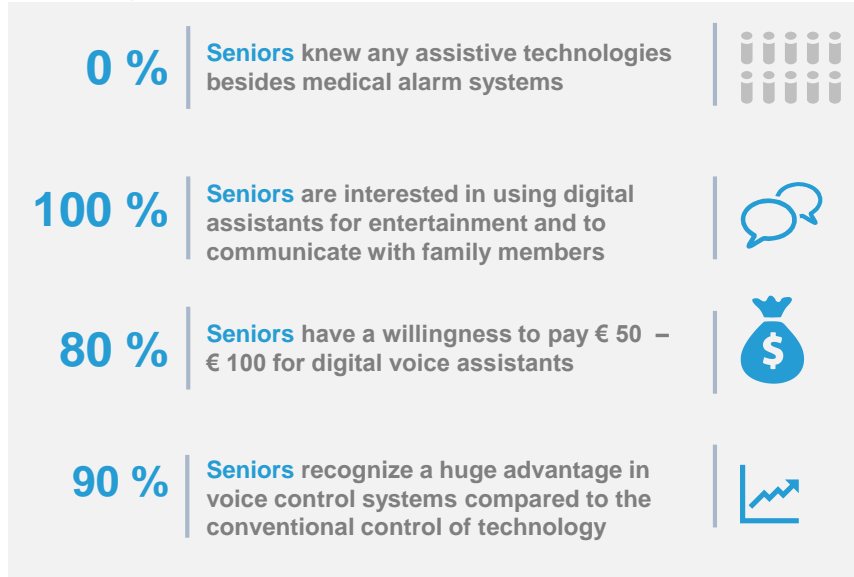
Care service documentation



The potential of digital care assistants is confirmed by the assessment of elderly dependents and market experts in a qualitative study.

Digital care assistants – study results

Elderly dependents



Market experts



Qualitative study: Seniors (n=10), Experts (n = 30), Care services (n = 19), Operators of care homes (n = 10)¹⁰

The cost reduction through increased efficiency is one of six opportunity areas of the digital care assistant within the care sector.

Growth opportunities through care assistants

1 Increase of efficiency through cost reduction

- Reduction of administrative costs
- Integration of care assistants to support nursing staff / physicians
- Simplification of internal processes
- Improve disease management programs

3 Differentiation from competitors

- Analyze the vital data for a personalized care
- Increase customer loyalty through lock-in effects
- Differentiate from competitors with attractive offers
- Positioning in the market as provider of individual care through digital voice assistants

5 Generation of new insights

- Collection of patient's insights, e.g. habits, preferences
- Collection of relevant data throughout the entire lifecycle of patients
- Derivation of new offerings based on insights

2 Great patient experience

- Adjustment to new customer needs after individualization and increase of autonomy
 - Relief of relatives through digital service offers
 - Communication with stakeholders, relatives and health caregivers via a health network

4 Addressing of new market segments

- Offer comprehensive care for elders in remote areas
- Provide new services for alternative ways of living, e. g. Quartier Hamburg

6 Integrated health support

- Simplification of data exchange between the elderly and healthcare providers
- Increased empowerment through new opportunities in self-management
- Optimization of processes through shared information



Mücke, Sturm & Company would like to get in touch with you to discuss the influence of digital care assistants to your business.

We can support you with topics like...

- How can digital care assistants secure your core business and moreover, generate additional revenue?
- How can digital care assistants increase the efficiency within your organization?
- Which internal services from digital care assistants are relevant for your organization?
- Which new market segments become accessible through the implementation of digital care assistants?
- How can digital care assistant offerings provide great onsite patient experience?



Michael Mücke
Managing Partner at
Mücke, Sturm & Company

Headoffice Munich
Theresienhöhe 12
80339 Munich
Germany
T +49 89 461399 0
F +49 89 461399 777

Office Hamburg
Brooktorkai 20
20457 Hamburg
Germany

www.muecke-sturm.de



Copyright and Sources

Copyright

This document is intended for personal use only. Distribution is only permitted without any changes or omissions – publication, in whole or in parts, requires prior written consent by MÜCKE, STURM & COMPANY and correct citation of sources.

The herein published texts and graphics were used by MÜCKE, STURM & COMPANY in the context of a presentation; they themselves do not represent the presentation in its entirety.

All mentioned company names, logos, brands, brand symbols and other copyrighted material are the sole properties of the respective company; they are only used for illustrative purposes.

Sources

Slide #1 (Title)

Pictures: www.googlewatchblog.de / www.pillohealth.com / www.intuitionrobotics.com

Slide #2

Studies: ^{1,3} Köcher & Sommer, 2017 / ² TNS Emnid, 2017 / ³ Mücke, Sturm & Company, 2017 / ⁵ Statista 2016

Slide #3

Citation: ⁶ Adam Miner, 2017 / ⁷ Bill Rogers, 2018 / ⁸ Helmine Kalch, 2017

Pictures: Pexels, <http://www.baidu.com/> / www.amazon.com / www.bing.com / www.apple.com / www.play.google.com

Slide #4

Pictures: ⁹ Amazon Alexa Skills, 2017

Slide #5

Pictures: Flickr

Slide #6

Pictures: <http://www.bluefrogrobotics.com/en/home/> / <http://www.cataliahealth.com> / <https://www.cutii.io/cutii/> / www.intuitionrobotics.com / www.pillohealth.com

Slide #8

Studies: ¹⁰ Mücke, Sturm & Company, 2017