Personal IT Vocamate Interactive
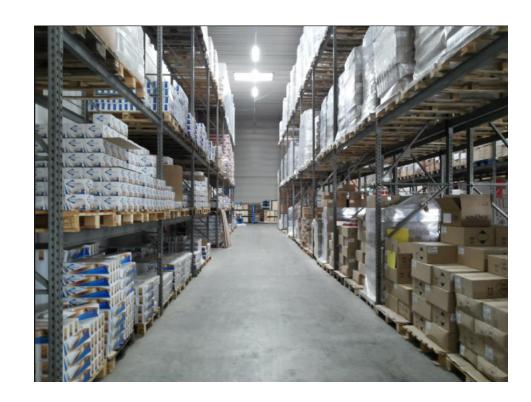Warehouse management with voice technology
Next generation Voice Picking (Pick-by-Voice)

High requirements for cargo processing

High quality goods distribution requires every second to be count and every action to be made perfect

- Customers are looking for faster and accurate deliveries
- Economic environment is looking for rationalized costs
- Savvy business with distribution centers (DC) facilities are looking for advanced innovations to create a more efficient warehouse environment that extends to the actual delivery supply chain

This what Pick-by-Voice was invented for.

Real-time warehouse control

Effective goods flow management, correct batch and expiration dates accounting can be achieved with the online registration of each warehouse operation.

The most common online accounting technology today is handheld computers with scanning tools. They consider to be effective but expensive to implement.

An alternative technology for online accounting is voice picking also known as pick-by-voice. Warehouse employee receives work assignments from warehouse management system (WMS) using speech synthesis and recognition systems.

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Pick-by-Voice advantages

Main Pick-by-Voice features are

- Hands-free – eyes-free
- Reduced picking time
- Improved picking accuracy up to 99,999%
- Real-time goods accounting
- Decreased amount of paper used in warehouse
- Improved customers loyalty
- Heightened customers satisfaction

Highest efficiency can be achieved by performing picking operations, which are about 60% of DC operations.

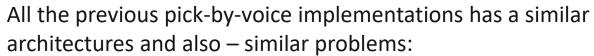Most customers recognize the technology as highly efficient, while noting the high cost of implementation. ProfIT invent new way and it changed everything!

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Next generation Pick-by-Voice

All the previous pick-by-voice implementations has a similar architectures and also – similar problems:

- On-device speech synthesis and recognition
- High cost of end-user device due to complexity of the equipment
- Low quality speech synthesis due to productivity limitation of handheld computers
- Character-by-character numbers recognition
- Speaker dependent speech recognition

Using another type of architecture by transferring speech synthesis and recognition from end-user device to remote server made it possible to achieve a significant cost reduction of know-how implementation.

That's how we made Pick-by-Voice affordable for a large number of customers.

Fundamentally new method

Concentrating on the main thing - the efficiency

Speech recognition and synthesis systems development was entrusted to accepted industry experts

Multi-digit recognition against competitor single-digit one

No need to carry out an individual adaptation of speech recognition system for each warehouse employee

Different architecture – different price

Low cost of employee mobile devices (from 75 USD)

Convenient workflow editor as a part of solution

Rapid change of existing processes and creation of new ones without vendor involvement

Voice communication inside the warehouse without additional equipment

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Feel the benefits

	Competitor solutions	PIT Vocamate Interactive
Architecture	Thik client On-device speech recognition and synthesis	Thin client On-server speech recognition and synthesis
Energy consumption, мА	300-400	25-70
Device weight with battery connected, gram	800 - 1 000	110
Data traffic, kBps	<1	16
Service complexity	Handheld computer	DECT-chip
Cost of stationary equipment, USD per 1 000 m^2	from 250	from 650
Cost of mobile equipment, USD per unit	from 1 800	from 75

Powered by efficiency

During realized proof-of-concept warehouse employee with PIT Vocamate Interactive technology have reached following pick parameters:

- Average pick time – 20 seconds
- Most of picks (more than 76%) ended at 13 seconds

In other words have achieved a productivity of 276 picks per hour.

PIT VI productivity
276
picks per hour

Comparison with handheld computers	Comparison with pick-by-voice competitors
+14%	+8%

More info about price comparison

In August 2017, one of the largest Russian retail chains announced the purchase of pick-by-voice equipment for a newly built DC.

Total cost for 80 employee mobile devices was 113 800 USD

Total cost for 80 employee mobile devices for PIT VI implementation would be 11 785 USD

In the case of the purchase of our invention, the company could save almost 90% of the initial purchase budget.

At that time we were focused on improving our solution, not on its wide distributing. And now when it improved, we would like to introduce PIT VI to you!

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Language support

PIT Vocamate Interactive is powered by Microsoft Speech Platform SDK 11 to provide speech recognition and TTS (text-to-speech) speech synthesis. Today PIT Vocamate Interactive successfully works with the following languages:

Country	Language	Country	Language	Country	Language	Country	Language
Australia	English	France	French	Korea	Korean	Spain	Catalan
Brazil	Portuguese	Germany	German	Mexico	Spanish	Spain	Spanish
Canada	English	Great Britain	English	Netherlands	Dutch	Sweden	Swedish
Canada	French	Hong Kong	Chinese	Norway	Norwegian	Taiwan	Chinese
China	Chinese	India	English	Poland	Polish	United States	English
Denmark	Danish	Italy	Italian	Portugal	Portuguese		
Finland	Finnish	Japan	Japanese	Russia	Russian		

Any other external speech recognition and synthesis systems that have API can be connected to PIT Vocamate Interactive to extend the list of supported languages and to improve user experience.

Advanced solution features

Cloud-ready (powered by Microsoft Azure)

Cloud technologies provides a new way to make a service more reliable and secure

Convenient service consumption volume management depending on the current need

Guaranteed service availability at least 99,9% of the time

Advanced features of working with barcodes

Pick-by-Voice and scanning technology fusion allows to achieve a new efficiency level working with batches and other important service information

Scanning operations integrates into workflow script to obtain new level of picking accuracy

2D CMOS

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Thank you

Feel free to contact us about any additional information

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