

# From search to chatbot

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# Anna Gabler at **allegro**

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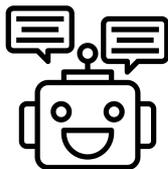
I'm responsible for:



intranet



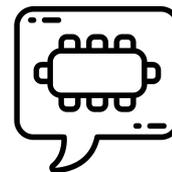
knowledge base



Allegro Assistant  
(chatbot)



Video conferencing  
service



Booking conference  
room

# allegro

# #1

e-commerce internet platform in Poland  
Started in 1999  
now 2K+ employees, 5 locations

read more:

<https://allegro.tech/>



21 MM+  
user  
accounts



1,7 MM+  
sellers



140 K+  
professional  
sellers



90%  
brand  
recognition



130 MM  
offers  
monthly



19.9 MM  
transactions  
monthly



224 MM  
visits  
monthly



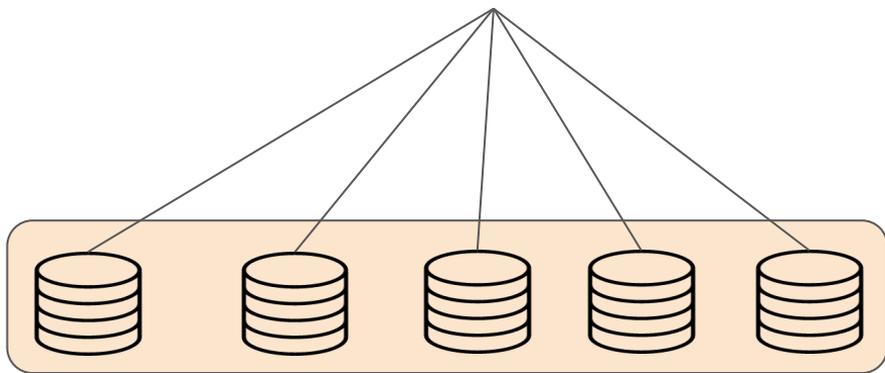
3,5 BN  
PV  
monthly

# Situation:

allegro Home

czego szukasz?

SZUKAJ



Confluence



Docs



Sheets



Sites

allegro  
Service Control



Gmail

slack

other

# Complication:

- Employees don't know where to look for information. We are wasting time searching for information. (efficiency) ↓
- Discrepancies in sources of knowledge. Employees reach outdated information.
- Employees dissatisfaction and frustration are growing (commitment) ↓
- The information is reproduced, which generates the costs of creating, reading and filtering.
- New employees are informed about responsibility, processes, systems and procedures in an unstructured manner. (onboarding costs) ↑
- It is difficult to automate processes without structured knowledge in an organization



How to clean up this mess?

## Resolution: Make a chatbot!



1

### WORKSHOP

Prepare a workshop where you can find answers to what employee questions are most often looking for answers

2

### CHOOSE TECHNOLOGY

Select the best NLP engine for you and app.

3

### MVP

Choose the 20 most popular questions from companies and show how it works.

4

### PILOT PROGRAM

Not everything at once!  
Implement the first phase.

Today

**tomasz.sobczak** 2:35 PM  
jaki jest numer telefonu do Ani [redacted]

1 What is Ania [redacted] phone number?  
*+48 516(...)*

**Asystent Allegro** APP 2:35 PM  
+48516 [redacted]

**tomasz.sobczak** 2:35 PM  
a gdzie ona pracuje?

2 Where does she work?  
*At Poznań, Pixel, 03\_14 (city, office, room)*

**Asystent Allegro** APP 2:35 PM  
Poznań, Pixel, 03\_14

**tomasz.sobczak** 2:35 PM  
czy Ania jest nadal w pracy?

3 Is Ania still at work?  
*Yes, she is.*

**Asystent Allegro** APP 2:35 PM  
Jest w pracy

**tomasz.sobczak** 2:35 PM  
dzięk!

4 Thanks!  
*Thanks for talking, see you soon!*

**Asystent Allegro** APP 2:35 PM  
Dzięki za rozmowę! Do zobaczenia wkrótce!

**tomasz.sobczak** 2:36 PM  
muszę rozliczyć delegację do Monachium

5 I have to settle a delegation to Munich –*Here is a link to the foreign delegation form*

**Asystent Allegro** APP 2:36 PM  
Oto wniosek na delegację zagraniczną: <https://hrms-test.allegrogroup.com/mHRTTest/PersonProfile/ProfileApplicationCreate.aspx?code=11&pid=246353&returl=ProfileApplicationList.aspx>

**tomasz.sobczak** 2:36 PM  
chcę wypisać sobie urlop

6 I want to take a vacation –*Here is a link to the vacation leave form*

**Asystent Allegro** APP 2:36 PM  
Oto wniosek o urlop wypoczynkowy: <https://hrms-test.allegrogroup.com/mHRTTest/PersonProfile/ProfileApplicationCreate.aspx?code=11&AbsenceType=7> <https://hrms-test.allegrogroup.com/mHRTTest/PersonProfile/ProfileApplicationCreate.aspx?code=11&pid=246355&returl=ProfileApplicationList.aspx>

**tomasz.sobczak** 2:37 PM  
kto jest odpowiedzialny za usługę ServiceNow?

7 Who is responsible for ServiceNow? –*(a list of business and technical owners)*

**Asystent Allegro** APP 2:37 PM  
Właściciele biznesowi usługi: Magdalena [redacted] (magdalena.[redacted]@allegro.pl), Marcin [redacted] (marcin.[redacted]@allegro.pl), Właściciele techniczni usługi: Przemysław [redacted] (przemyslaw.[redacted]@allegro.pl), Tomasz [redacted] (tomasz.[redacted]@allegro.pl), Marcin [redacted] (marcin.[redacted]@allegro.pl)

**tomasz.sobczak** 2:37 PM  
za jakie jeszcze usługi odpowiada Marcin [redacted]?

8 What other services is Marcin [redacted] responsible for? –*(a list of services)*

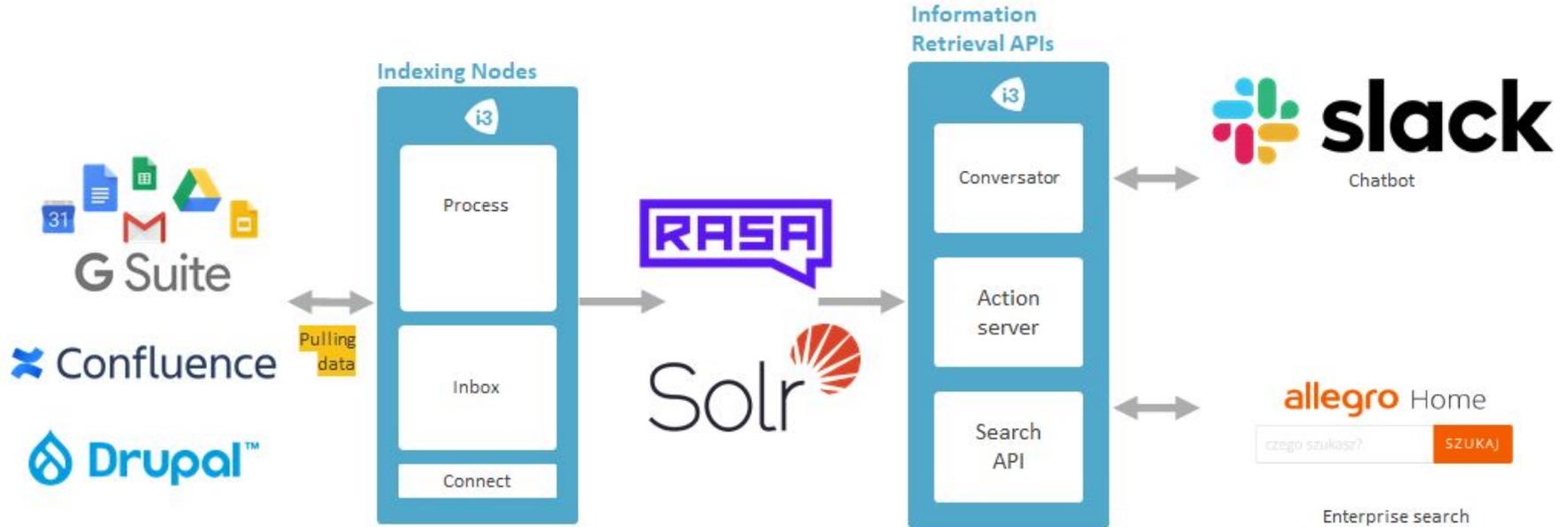
**Asystent Allegro** APP 2:37 PM  
Pracownik zajmuje się usługami: ServiceNow: [https://sc.allegrogroup.com/entity/\[redacted\]](https://sc.allegrogroup.com/entity/[redacted]), Piwik: [https://sc.allegrogroup.com/entity/\[redacted\]](https://sc.allegrogroup.com/entity/[redacted]), Gmail Allegro: [https://sc.allegrogroup.com/entity/\[redacted\]](https://sc.allegrogroup.com/entity/[redacted])

Message Asystent Allegro

# Chatbot scenarios

Retrieving employees' information like contact phone, room number, presence in the office, role, team membership or supervisor question	<i>What is a phone number to John Smith?</i>
Information about ownership of IT systems and services	<i>Who is responsible for JIRA in our company?</i>
Retrieving links to HR forms for i.e. sick leave, childcare, holiday, delegations, remote work	<i>I want to take a vacation</i>
Questions related to IT Support and its knowledge base	<i>How to reset domain password? Can I buy my old laptop?</i>
Triggering enterprise search service from chatbot level	<i>Search for work regulations or company's news</i>
Checking own meetings in company's calendar	<i>What meetings do I have tomorrow?</i>
Integration with company's resource system such as phones, computers, projectors etc.	<i>What equipment do I have assigned? What is the pin for my card?</i>
Self-adding simple intentions via web interface and without any coding	<i>e.g. Telephone to the company's reception</i>

# High-level architecture



# Lessons Learned

1. Always start with workshop and create clear business case for chatbot. you must have a long-term vision, but start with relatively narrow scope,
2. Watch out for the language! Some languages (e.g. Polish) may require more effort (e.g. declination). Be also prepared for troubles with surnames,
3. Human language is ambiguous, so projects using NLU are to some extent endless. Acceptance tests must be based on a statistical accuracy metric - define it at the very beginning stage of project,
4. Providing reliable fallback, when user asks for something completely without sense or just beyond the scope, can be problematic. It can sound silly, but returning “hey, sorry I don’t know the answer” is quite a challenge,
5. Don’t oversell (both externally & internally) - NLP/ML is not a magic, just a math.