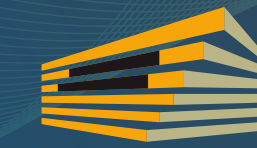


## AI bot call centre services



### TYPE OF R+D RESULT

New technology  
New product  
**New service**  
New knowledge or skill



### COMMERCIAL MATURITY LEVEL

Model or conceptual idea  
Proof of concept (design)  
**Validated in a controlled environment**  
Validated in a real environment  
Successfully implanted



### PROTECTION LEVEL

Non- applicable  
Patent  
**Software  
Know - how**  
Utility model

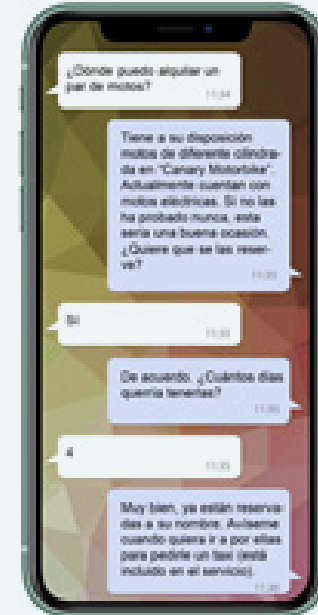
### Description of the solution. Problem solved

Communication between clients/users and companies/entities is, in a high proportion, the base of the business relationship in terms of sales, after-sale services, technical support, customer services, transactions, and so on. In scenarios as advising a client or offering services for the citizens communication is vital for companies and public administrations to reach their goals.

Directives and European digitisation plans, as well as on-line trading and e-Government services, require new channels to complement or to replace the traditional face-to-face communication effectively. For decades, phone has been used for those situations in which physical presence was not possible for any reason. However, it is not an ideal channel in the frame of digital technologies.

Currently, society has accepted electronic messaging (SMS, Whatsapp, Telegram, etc.) as a daily mean of communication similar to phones. Also, text communication channels (chats) have been introduced in websites, allowing an easy communication between user and shop or administrative staff.

Moreover, Artificial Intelligence (IA) has undergone impressive upgrading and presence in the industry and services recent years. In particular, Natural Language Processing (NLP), which is an IA area related to human language interpretation and generation by machines, have generated applications such as automated translation, voice recognition or conversational agents (bots). All of these technologies are becoming increasingly common use among society.



Bots make possible to chat naturally with people, allowing them to classify and receive information by machines. In order to get this, these bots are programmed for specific tasks by previous learning techniques.

According to the aforementioned, the present solution consists of an on-line platform that interconnects three participants in the same textual communication channel: a user (client), an operator (call centre staff) and a conversational agent (bot.) In this context, when a user starts a dialogue (ask for any information), the call centre staff answers this petition by establishing a dialogue with user.

This flow of questions and answers is also been received by the bot, that will carry out an incremental and repeated learning process about this conversation and hundred more that will be produced.

After reaching a certain learning level, the bot will be able to answer totally autonomously all the user's questions. This will avoid unnecessary work of call centre staff, increasing significantly the load and answer capacity of the call centre. Economic benefits for companies and administrations are evident and customer service is also improved since it is provided 24/7.

### Fields of commercial application

This system has multiple fields of commercial application because any company or administration needing to communicate with their clients or users can use it (e.g.: administrative entities like municipalities, local councils, government administrative units, councils; hotels; on-line channels for sales, customer service, technical support). Due to increasing externalisation of commercial and after-sales services, this solution may be particularly interesting for those companies offering

contact centre and telemarketing services.

### Market opportunity

The inevitable digitisation process of services in organizations, as well as the increase of demand and expectations of users and clients who want customized, immediate and consistent answers, no matter the contact mean chosen (web, phone, chat, social media, etc.) have become call centres in one of the most important and demanded services in companies to interact with clients and users.

The chance of incorporate Artificial intelligence in contact centre services for a hybrid human/bot attention service brings other benefits such as allowing the service scalability without increasing costs; offering a quicker response due to less human subjective variable; major service automation, etc.

### Competitive advantage

Currently, there is a wide range of alternatives for chat integration on websites and mobile apps on the market. Also, bots are becoming a more common communication tool among users, however the present solution provides the hybrid integration of these technologies. Besides, as a highly competitive advantage, bot skills are improved progressively and automated, since this invention integrates artificial intelligence and automated learning.

In addition to this, this intelligent bot is a system that can be adapted to customers' needs and it is possible to add customised features depending on the clients' demands.

**AUTHOR**  
Cayetano Guerra Artal; Francisco Mario Hernández Tejera

**CONTACT**  
Oficina Transferencia de Resultados de Investigación (OTRI)  
@ arivero@fpct.ulpgc.es  
☎ 928 45 99 56 / 43

<https://otri.ulpgc.es/>