

WHITE PAPER

**Introducing an innovative system to help organisations
to engage with customers who speak different first languages.**

INTRODUCTION

Market: In many sectors and geographies around the world, emerging economies are rapidly expanding and economic migration is increasing. As a result, many local communities are becoming more diverse, and it is increasingly important to engage with customers in their own language, via a multilingual interface. This is true in the context of extending service provision to permanent local ethnic communities as well as to temporary residents such as business travellers and tourists.

For example, in the UK, with current levels of economic migration, and the subsequent increase in ethnic communities, it is increasingly important for the Police and other local services, such as Department of Health, Department of Work & Pensions, Department of Social Services, Local Authorities and Utility companies, to be able to engage with their diverse communities of customers in languages other than English.

Ten years ago, net immigration to the UK was about 50,000 people per year. Recent figures estimate that net immigration to UK is over 220,000 people per year¹, and furthermore that illegal immigration could account for another 570,000 people living in the UK. The Office of National Statistics (ONS) estimates a diverse ethnic population of around 5 million people in the UK, or nearly 10% of the total population.

Offering: There are three important contexts in which these multilingual dialogues need to take place:

1. Where the customer is calling on the telephone.
2. Where the customer is visiting an office.
3. Where the customer and the organisation's staff are in dialogue on the street or at the customer's home or business.

Lattice Voice Technologies have developed an innovative set of offerings that enable people who don't share a common first language to communicate in these various contexts. For example, an operator at a call centre can engage in a dialogue with a caller via the Lattice Voice Server, which translates between the two, enabling them to communicate each in their first language, via scripted dialogues.

Opportunity: The system enables organisations to engage with customers who would otherwise be difficult to reach, and so offers commercial organisations benefits in increased revenues, competitive advantage, brand development and social capital. Equally, the system enables the Police, Government departments and Local Authorities to achieve improved targets related to ethnic diversity and community relations.

¹ Office of National Statistics (ONS) – UK Census data.

OVERVIEW

Growth of diverse ethnic communities: The “First Contact” suite of offerings from Lattice Voice Technologies addresses situations where a client organisation and a member of the public, need to communicate, but do not share a common language to a sufficient degree. The scale and scope of this challenge can be seen in the increase of ethnic communities throughout major areas of the UK from the south east to the north west. This is indicated in the census data from the Office of National Statistics (ONS) in Appendix 1, showing the percentage of ethnic community in each local region.

The detail of this ONS data also shows some particularly high densities of ethnic communities in metropolitan areas:

Slough	42%
London	40%
Leicester	39%
Luton	35%
Blackburn	24%
West Midlands	23%
Nottingham	19%
Derby	16%
West Yorkshire	14%
Manchester	12%

As one would expect, the densities of ethnic communities in London are particularly high, as shown in the chart of the London Boroughs in Appendix 2. In the London Borough of Newham for example, the ethnic community is over 60% of the population, but it is not a challenge solely focused in the capital. In parts of the Midlands, the ethnic community makes up about 25% of the population, and over 60 languages are spoken.

Product-Market focus: We are interested to discuss the opportunities for using Lattice Voice Technologies with the Police, and other organisations in the UK, such as the NHS Accident & Emergency Departments, Job Centres, Social Services Offices, Local Authorities and Utility companies – where engaging with customers in their first language is increasingly an important issue. We believe there is a valuable opportunity to improve services and deploy resources more efficiently, and also to improve relationships with ethnic communities, all of which are vital benefits to win and sustain these days.

In particular, Lattice Voice systems can be deployed in three contexts:

- **“On the Phone”** – where a member of the public has called a client organisation on an emergency or non-emergency telephone line.
- **“On the Street”** – where a member of the public and client staff, such as a Police officer, Doctor or a Utility engineer, need to engage in dialogue via a mobile device.
- **“In the Office”** – where a member of the public is visiting a client location, and where a dialogue may be required at a front desk, or in relation to the Police in a custody suite or in an interview room.

Scripted dialogues: Successfully addressing any of these situations requires relevant dialogues to be scripted and translated in advance, and integrated into the appropriate operational systems. Some aspects of these scripted dialogues will be simple and generic, such as “What is your name?”, and others will be more sophisticated, to deal with the specifics of particular scenarios, such as an emergency incident or customer service visit. Call centre operators, customer service managers, police officers, doctors and utility engineers, for example, need to be able to access these dialogues when and where required, as dictated by operational priorities.

For example, in the context of a Caller contacting a Police Call Centre, on “999” or a non-emergency number, the benefits of this approach are that:

- The language of the Caller can be quickly identified.
- The risk to life or property can be quickly established.
- The name, location and reason for calling can be determined.
- Sufficient details of the Caller’s situation can be systematically revealed, so that their problem can be resolved effectively, with or without an operational deployment.
- A high quality description of the Caller and their situation can be communicated to other personnel, including a personal translator on the telephone if necessary, to enable successful resolution.

Furthermore, once the basic data such as name, location and reason for calling have been established, a more detailed dialogue can be engaged. For example, an ongoing scripted dialogue may typically include the following questions in relation to a violent incident being reported to the Police:

- How many offenders are there ?
- Are the offenders still at the scene ?
- Have any weapons been used ?
- Do you have any injuries ?



Clearly, this kind of questioning, in a multilingual context, helps the Call Taker to establish the problem and to decide on the appropriate resolution – taking into account the situation of the Caller, the most efficient use of resources and, in emergency situations, the safety of all those involved.

Such scripted dialogues can be used to engage with customers of client organisations in many sectors in many countries around the world. Lattice Voice systems are completely agnostic in relation to the languages that are used – it doesn’t have to include English.

Integrated technologies: Each of Lattice’s three offerings uses the most appropriate technologies to help the client organisation to engage with the public in these different situations. For example, “On the Phone” connects a telephone Caller and Call Taker to a computer system called the Lattice Voice Server, in a three-way conference call. Critically, simultaneously with the voice conference, the Lattice Voice Server also connects with the Call Taker via a web browser, so that the Call Taker can navigate the appropriate scripted dialogue and choose the relevant questions or instructions from the

webpage. The Lattice Voice Server will then ask the Caller the chosen question in the Caller's first language, offer the Caller appropriate options, translate the Caller's response and inform the Call Taker of the Caller's response. We believe it is important that the Call Taker maintains control of the dialogue in this way, and always has direct access to generic questions in addition to those pertaining to any particular scenario.



Similarly, “On the Street” enables the client organisation to use a Blackberry, PDA or other mobile computing device to engage a member of the public in the relevant multilingual dialogue, and “In the Office” uses two touch-screens, on a front desk for example, to enable the client staff and customer to communicate via their own first languages.

In each of these three offerings, it is critical to develop the best possible scripted dialogues for each of the situations that are most likely to occur. The list of situations for “On the Phone” for example, in the Police context, may include scenarios such as:

- Burglary
- Theft
- Hate crime
- Missing person
- Sexual assault
- Robbery
- Harassment
- Bomb alert
- Stolen vehicle
- Domestic violence

The key scenarios to be addressed with “On the Street” and “In the Office” are likely to be a little different to some extent - the priorities will be dependent on local conditions. It is important therefore to work closely with each client to ensure that the most appropriate dialogues are scripted for the key situations in their particular circumstances, and that they are seamlessly integrated into their local systems.

In relation to the Police, Emergency Services and Utility companies, all of the Lattice offerings, and the dialogues for the key scenarios, have been developed in the context of the National Call Handling Standards, deployed by the Police in the UK since 2005. Also, all the conversations are stored and are available for transcript or replay in evidential quality if required.

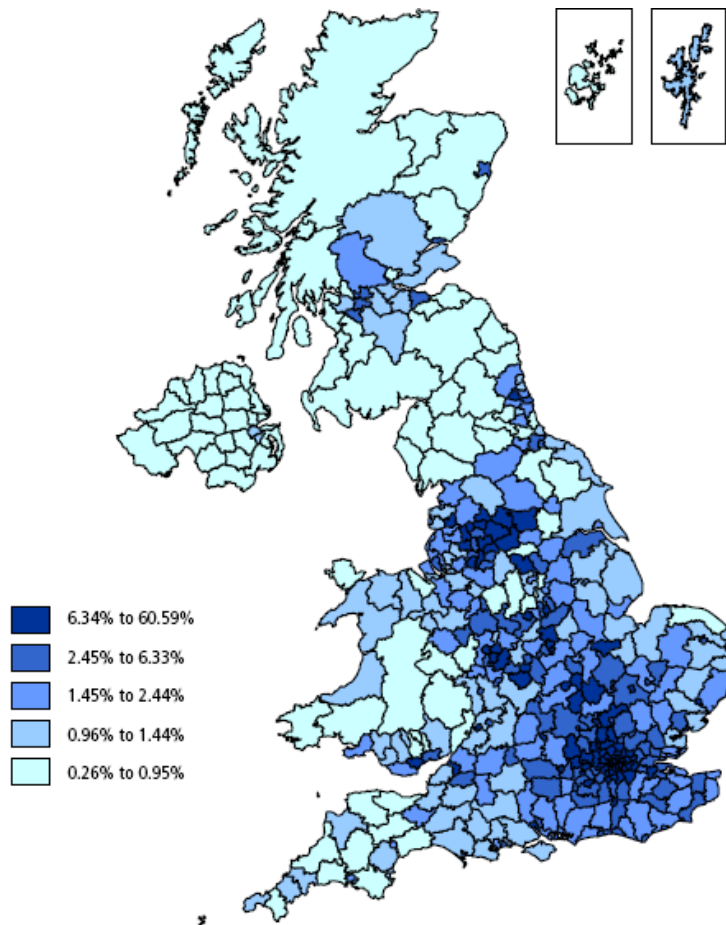
NEXT STEPS

We are keen to engage with leading national and international organisations such as the Police and major Government departments, Local Authorities and Utilities in the UK, to deploy these multilingual capabilities according to your particular needs.

In this context we would welcome a meeting to introduce ourselves and this innovative technology, to discuss how we might work together to address these emerging challenges.

At this time of increasing ethnic diversity, we look forward to helping key organisations to improve the communication and relationship with your diverse customers, and to help to drive the economic and social benefits that can result from such engagement.

Appendix 1 - Distribution of Ethnic Communities throughout UK



Source: Office of National Statistics, UK Census

Appendix 2 - Ethnic communities in London Boroughs

Borough	Non-White groups as a % of total population 1991	Non-White groups as a % of total population 2001	% increase 1991-2001
Newham	42.9	60.6	41
Brent	45.2	54.7	21
Tower Hamlets	36.1	48.6	35
Harrow	26.6	41.2	55
Lambeth	30.6	37.6	23
Redbridge	21.6	36.5	69
Waltham Forest	25.9	35.5	37
Hounslow	24.7	35.1	42
Haringey	29.4	34.4	17
Croydon	17.8	29.8	67
Camden	17.7	26.8	51
Islington	18.9	24.6	30
Enfield	14.3	22.9	60
Wandsworth	20.3	22.0	8
Kensington & Chelsea	15.4	21.4	39
Hillingdon	12.4	20.9	68
Kingston upon Thames	8.7	15.5	78
Barking & Dagenham	6.8	14.8	118
Sutton	5.5	10.8	96
Bromley	4.7	8.4	79
Havering	3.2	4.8	50

Source: Office of National Statistics, UK Census