

PART B

COLLABORATIVE PROJECT

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B1. CONCEPT AND OBJECTIVES, PROGRESS BEYOND STATE-OF-THE-ART, S/T METHODOLOGY AND WORK PLAN

B1.1 Concept and project objective(s)

The main objectives of the proposed project are:

- to investigate the outstanding cognitive, linguistic and sociological issues in multilingual Europe;
- to assess existing public policies and practices within the areas of education and health and their impact on multilingualism;
- and
- to contribute to evidence-based policy-making.

To this end, AThEME has brought together highly qualified researchers on these questions from the humanities and social sciences from 16 research partners and one SME, located in 8 countries (including 2 Eastern European countries).

1.1.1. Conceptual premises

Our overall conceptual framework¹ is based on three key premises:

Multilingualism is multifaceted

There are many different forms of multilingualism. Early bi-/multilingualism refers to early acquisition (e.g., before puberty) of more than one language. This can range from children acquiring different languages from their parents or children learning a second or third language early in school and can be simultaneous (both/all languages acquired at the same time) or consecutive. Multilingualism can also be due to immigration: first generation immigrants bring their native languages with them, and they acquire another language from their new country (often a third language they learn at school). Another form of multilingualism connected to immigration is in relation to the second generation – heritage language learners, who learn the language of their parents. Individuals may of course also become multilingual later in life. An important facet of the reality of multilingualism that must be acknowledged is that it is unbalanced: all bi-/multi-linguals are linguistically unbalanced to a certain extent, typically possessing a stronger and (a) weaker language(s), the balance of which can fluctuate over the course of the life span. Aside from these more familiar forms of multilingualism, the often neglected form of bi-/multi-lingualism concerns knowledge of a regional language (e.g., Frisian in the Netherlands, Catalan in Spain, dialects in Italy). Each of these forms of multilingualism has been researched separately since each is connected to different linguistic and societal issues. At the same time, what is needed is a common framework for considering these different types of multilingualism because of the common threads that they share (Sorace 2011).

Attitude towards a language affects acceptability of multilingualism

Though certain forms of multilingualism are considered a resource to the European society (<http://www.language-rich.eu/>), multilingualism is not always accepted as a resource. A prestigious second language such as English, French, Spanish, German or Mandarin Chinese, tends to be accepted by European citizens as an asset. On the other hand, a non-prestigious second language, particularly one which “comes with” an immigrant, for example, Turkish or Berber, is often considered to be a hindrance. Even officially recognized European national languages such as Polish may have a low status in other European countries. While indigenous regional languages are often protected by recognition through the *European*

Charter for Regional or Minority Languages (http://www.coe.int/t/dg4/education/minlang/default_en.asp), many immigrant minority languages in Europe fail to garner this type of support. Positive and negative attitudes are strongly related to the supposed local and global economic value of the language in question.

There is a complex link between the intelligibility of a language and attitudes towards that language (e.g. Schüppert et al 2010), which needs to be investigated more closely. Attitudes also affect language learning: schoolchildren (and their parents) may be more willing to learn Chinese or English than another European language. For immigrant communities, attitudes may also affect the provision of financial resources at a national or community level that allow a language to be maintained.

Knowledge of language and its use involve different linguistic components and their mutual interactions, and interfaces with other cognitive modules

Studies on the knowledge and the use of the native or secondary language(s) of multilinguals tend to focus on one of the different components of language, for instance, the lexicon, morphology, phonology, phonetics, syntax, semantics or pragmatics. Linguistic research in the last thirty years demonstrates clearly that it is fruitful to study knowledge of language from a multifaceted approach (i.e., interfaces). Lexical knowledge interacts with knowledge about sentence structure, which in turn interacts with the prosodic properties of a sentence, which in turn interacts with the distribution of pragmatics, et cetera. It is clear that in order to obtain a better understanding of our knowledge of language and its use it is crucial to closely investigate these fine-grained interactions between the components of human language. A logical and necessary next step to make towards a better understanding of multilingual knowledge is to investigate the multilingual state from an interface perspective. This line of inquiry must also include the investigation of linguistic knowledge of multilinguals in interaction with other cognitive domains. The linguistic module has been shown to not stand alone, as clear benefits of being multilingual to other cognitive components have been indicated. It is obvious, though, that the nature of this cognitive benefit of multilingualism is in need of further exploration and deserves a prominent place on the research agenda of multilingualism.

The common framework proposed in this project is an integrated approach towards the study of multilingualism, incorporating and combining linguistic, cognitive and sociological perspectives. Furthermore, multilingualism will be studied at three different levels of societal magnitude: (a) the individual multilingual citizen (i.e., the micro-level), (b) the multilingual group (i.e., the meso-level), and (c) the multilingual society (i.e., the macro-level).

Individual citizens. The multilingual society begins with its multilingual citizens, whose knowledge and use of the native and secondary language(s) are central to any investigation of multilingualism. Studies focusing on the individual citizens aim at understanding the asymmetry in competence versus proficiency, individual differences (in rate of acquisition and level of attainment) in heritage or second/foreign language acquisition, the role of input (amount and age of exposure to the language), the domain of use of the different languages, the extent and type of code-switching or language transfer that may occur, the individual "motivations" for selecting and using a particular language in a multilingual environment, the level of attainment and use of a heritage or second language across the life-span, including the attrition of (an) acquired secondary languages, as well as the attrition of one's first acquired language.

Multilingual groups. The increase in the number of multilingual speakers in Europe has multiplied the situations in which native and non-native speakers engage in dialogue and linguistic interactions. These situations of interaction between multilingual individuals and within multilingual groups raise the question as to how the interlocutors linguistically adapt and attune to each other. Research on dialogue among native speakers of the same language (Pickering & Garrod 2004) has revealed systematic patterns of automatic alignment between speakers: speakers automatically prime each other in the choice of lexical items and syntactic structures. However, very little is known about the interactions among non-native speakers, let alone the interactions between native and non-native speakers. Given the fact that such interactions among speakers with different language backgrounds and different levels of proficiency will be more and more common, it is important to examine more closely the linguistic, communicative and social strategies that are used for linguistic "attunement" in multilingual environments.

Multilingual Societies. Societal multilingualism refers to linguistic diversity in a society. In multilingual societies, languages may be equal, which is rather exceptional. In the overwhelming majority of multilingual societies, however, languages serve different functions. In classical diglossic situations one language or group of languages is acquired and used at home, in informal situations, with a low status, while the high status language is used in formal situations and learned through formal instruction. It is therefore important to investigate different national and regional language policies regarding minority languages and heritage languages and how these policies affect successful preservation of linguistic diversity. On the other hand, it is also important to understand the emergence and widespread uptake of new varieties of (youth) dialects in multi-ethnic groups in different European societies and how the emergence of these multi-ethnic dialects interact with other dynamic social developments.

1.1.2. Objectives

AThEME aims at achieving our main objectives of “investigating the outstanding cognitive, linguistic and sociological issues in multilingual Europe; assessing existing public policies and practices within the areas of education and health, and their impact on multilingualism; and contributing to evidence-based policy-making” by fulfilling the following more specific research agendas.

1. To increase our understanding of what multilingualism with regional minority languages entails from a linguistic, cognitive and social point of view.

Research on bi- and multilingualism is expanding but so far it has seldom considered multilingualism involving indigenous minority languages. There are multiple reasons for this neglect. These languages generally do not enjoy prestigious status: they may be regarded as dialectal or substandard variants of the standard languages, or considered as old-fashioned and offering no instrumental advantages, or seen as a burden that may be detrimental to a child's schooling in the standard language. As a result, fewer and fewer children learn these languages and their use has been sharply declining. AThEME aims to increase our understanding of what multilingualism with regional minority languages entails from a linguistic, cognitive and social point of view. AThEME ultimately aims to provide strong arguments to families, educators and policy makers that these languages form a rich resource that provide opportunities for multilingualism involving regional and minority languages, and therefore for enhancing their status and their prospect of survival over time. This will in turn contribute to preserving and valuing linguistic diversity in Europe.

This objective will be obtained by:

(a) *understanding the fine grained nature of linguistic diversity in Europe*, through collecting, describing and analyzing grammatical diversity across regional languages and dialects spoken in parts of Europe (e.g., Dutch dialects, Frisian; Basque dialects; Breton, ‘langues d’Oïl’), with the aim of laying bare and reaching a deeper understanding of the fine-grained dimensions of linguistic diversity. The number of regional variants that are studied within each cluster will range between 5 and 15. [month 34]

(b) *investigating the effects of regional multilingualism on grammar change or comprehension*, in a situation of contact between regional/dialectal varieties and standard languages, with the aim of gaining a better understanding of how languages change over time due to contact with other languages and trying to identify linguistic-structural characteristics and sociolinguistic variables that play a role in language change. Systematic descriptions and analyses will be provided for the reciprocal effects of multilingualism on grammar changes for the following language contact situations in Europe: (i) Basque (dialects) - Spanish/French, (ii) Italian/German varieties in contact with Standard Italian/Standard German, (iii) Italian-Croatian, and (iv) local varieties of Slovenian-Standard Slovenian. [month 34]

(c) *investigating the effects of regional minority language and cognition in multilingualism* with the aim of determining the role and involvement of parameters like typological distance, language use within the community, type of linguistic knowledge (e.g. syntax versus pragmatic), attentional control. Experimental studies will be conducted investigating (i) language comprehension and cognitive functions in multilingual regional minority language contexts, which differ in typological “distance” and patterns of language use in the community. [month 46]

(d) investigating strategies for successful maintenance of regional bilingualism, and the consequences of this maintenance, in different regions in Europe. A systematic and in-depth description and analysis of language maintenance of regional bilingualism, and the consequences of this maintenance, will be examined for different regions in Europe (e.g., Basque in Spain/France, Frisian in the Netherlands, Gaelic in the UK, Breton in France and Italian in Croatia). [month 56]

2. To investigate factors which contribute to the maintenance of heritage languages and proficient multilingualism, with the aim to stimulating heritage speaker multilingualism as a growing resource in Europe.

Typically, heritage speakers show *unbalanced multilingualism*: increased exposure to the *Dominant Language(s)* (DL) in the society typically means reduced input and unstable exposure to their *Heritage Language(s)* (HL), yielding a scenario of *partial language* development (the HL is not acquired completely) or *language attrition* (the speaker’s proficiency in her HL regresses). *Unbalanced multilingualism*, with varying degrees of command of the HL, from mere receptive competence in the HL, to proficient bi-/multilingualism with a strongly dominant majority language, is **by far the most common** situation of multilingualism in the context of ever growing language contacts affecting development of first languages. Yet this rich resource for the EU in our increasingly globalized economy and world remains surprisingly *untapped, underutilized*.

AThEME’s overall objective is to understand how to help speakers, educators and policy makers understand how to strike a balance between maintaining one’s HL and reaching proficient bilingualism (achieving proficiency in both the heritage and dominant languages)

so as to simultaneously preserve linguistic diversity stimulate multilingualism as a growing human resource in European communities. This objective will be reached by:

(a) investigating the role of the *sociological context*, determinants in heritage language preservation vs. attrition. Known sociological and sociolinguistic variables conditioning the rate of acquisition and level of attainment of the HL will be evaluated, and new data collected by carrying out a study targeting two types of second generation (high-school age) HL speakers: low vs. high prestige HL users. [month 57]

(b) experimentally investigating *linguistic knowledge* of heritage speakers. Knowledge versus proficiency of HL users will be studied along three dimensions: (i) comprehension vs. production of the HL; (ii) how HL knowledge and acquisition differs from both native, on the one hand, and second language, on the other hand, knowledge and acquisition; and (iii) incomplete HL acquisition by second generation immigrants versus HL language attrition by first generation immigrants. [month 58]

(c) investigating the impact of Heritage Languages on the Dominant Language. The *emergence of multi-ethnic dialects* (varieties of the DL displaying characteristics of HLLs) in major European cities will be examined. An investigation of morphosyntactic variation in Multi-ethnic London English is conducted, integrating an attitudinal study to determine to what extent use of the variety acts as an impediment to social mobility. Deficiencies in the DL of HL users will also be examined, together with the effectiveness of existing language assessment tests, and the extent to which HL proficiency impacts on the speaker's ethnical/national identity. [month 59]

3. To provide assessment tools and therapy for clinical practitioners in treating multilingual European citizens with acquired communicative disorders, with a view to contribute to evidence-based policy making.

AThEME aims at addressing the complex issues associated with multilingualism in acquired communicative disorders (usually associated with adults and arising from trauma or disease) and developmental communicative disorders (usually associated with children and typically arising from genetic disorders). Whether or not an individual is multilingual or is being raised in a multi-lingual environment and, if so, which languages the individual knows or is being exposed to, has a substantive impact on the expression of the disorder and thus has important implications for assessment, prognosis and therapy.

Advancing the evidence base. This aim will be achieved by addressing the behavioural expression and neurocognitive basis of communication disorders in multilinguals as well as social factors associated with multilingualism in health care and social services, through:

(a) administering and comparing three psycholinguistic protocols respectively testing phonological awareness, morphosyntactic awareness and interpretive competence in selected populations of Developmental Dyslexia and Special Language Impairment multi-, bi- and monolinguals;

(b) employing Artificial grammar learning (AGL) paradigms to address the problem of wrong diagnosis;

(c) investigating the characteristic brain networks underlying healthy and impaired language performance in multilinguals and collect new evidence on the way multilingualism affects the neurocognitive processes in the brain. [month 40]

Effective application. The AThEME project furthermore aims at providing the basis for development of practical applications of immediate benefit to teachers, health care providers and other stakeholders. More particularly:

- (d) based on the analysis of the factors that emerge from (a)-(c) above, the best teaching methods and the best remediation tools will be identified in order to maximally exploit multilingualism for the language learning performance of communicatively impaired subjects;
- (e) the behavioural language AGL protocols developed in (a)-(c) above will be used to establish a simple tool that can distinguish disordered language ability from normal delays in healthy development, providing in this way a significant benefit to European education and health care; and
- (f) a set of talking points will be provided to help care-givers anticipate and positively deal aspects of care provision for multi-lingual clients. [month 50]

4. To understand the factors which contribute to being “successful” multilinguals.

Given the long-term objective of the EU for all EU citizens to speak two languages *in addition to* their mother tongue, understanding how and why people succeed or fail in reaching this objective is critical. AThEME will investigate several factors contributing to what it means to “Being Multilingual”. In particular, the following three objectives will be pursued:

- (a) The project aims at advancing our knowledge of how age-of-onset and language distance contribute the ultimate attainment in L2 acquisition, by conducting experimental studies (using EEG/ERP and fMRI techniques) with multilinguals whose languages diverge in specific linguistic features (e.g. different syntactic, morphological or phonological properties). Unexplored attrition effects will be examined (the effects of multilingualism on reading) in adult early versus late multilinguals. [month 30]
- (b) The project conducts experiments using neuroscientific techniques and conversational experiments (e.g., syntactic priming) to understand how certain processes involved in conversations may be affected when foreign speakers are involved in the conversation. In particular, AThEME will focus on how fundamental processes in sentence comprehension are affected when speakers are exposed to foreign-accented speech. How the basic processes of communicative alignment are different when interlocutors are non-native from the already studied case of conversations between native speakers will be examined. The project also explores pragmatic abilities, and more specifically, contextual and grammatical conversation implicatures in simultaneous early multilinguals and L2 speakers at different levels of proficiency. [month 40]
- (c) AThEME aims at advancing our knowledge in a significant manner on the collateral effects on the cognitive system associated with multilingualism, by comparing multilingual and monolingual populations in certain executive control tasks and decision making tasks assessing the generalizability and reliability of the multilingual effects in the cognitive system. The project also pays attention to whether multilingualism has an impact on healthy aging of individuals. [month 59]

5. To raise awareness about multilingualism in European communities such that people in different sectors of society can make informed decisions.

AThEME aims at raising awareness about multilingualism in European communities and on disseminating research results in different sectors of society (including policy makers) to

make informed decisions and evidence based policies. The dissemination activities make use of the established public engagement and outreach programme developed by both *Bilingualism Matters* (BM) (<http://www.bilingualism-matters.org.uk>), and the SME partner, De Taalstudio. Both already have a wealth of experience in disseminating information on multilingualism in very different sectors (including families, schools, policy makers, health professionals, and businesses), and in dealing with different media.

A second strong focus of the dissemination activities will be on reaching out to Policy makers on three different levels: European, national, and local/regional level, and in different domains (e.g., Health care, Education/Social Domain, as well as the Cultural domain).

The dissemination activities will be both local (within individual partner countries) and global (involving all partner countries), and will be targeted at users, policy makers at different levels and the scientific community. There are four objectives:

- (a) Disseminate research-based information about the nature of multilingualism at all ages; [in every dissemination event, newsletter, and flyer]
- (b) Build the public understanding of different types of multilingualism depending on age of onset, context, amount of input available, and attitudinal/sociolinguistic variables; [month 40]
- (c) Update the contents of the initial dissemination activities with the results of the ATHEME project; [in every dissemination event, newsletter and flyer]
- (d) Build a strong and coordinated European dissemination network promoting multilingualism by organising research-based awareness-raising activities targeting all sectors of the society; [month 12]

B1.2 Progress beyond the state of the art

1.2.1 Preserving linguistic resources and diversity in Europe

In spite of the renewed interest and increased support for provision for many of Europe's indigenous regional languages in recent years, particularly following the introduction of the European Charter for Regional or Minority Languages (Council of Europe, 1992; http://www.coe.int/t/dg4/education/minlang/textcharter/default_en.asp), one cannot but conclude that regional minority languages in Europe are for the most part still under threat (Extra and Gorter 2007, Hornsby and Agarin 2012, Driessen 2012).

Due to their low prestige and the presence of the stronger community language (and also, increasingly, English as a worldwide language (House 2003)), inter-generational transmission is declining (Extra & Gorter 2008). Regional languages have a bidirectional link with bi-/multi-lingualism: on the one hand, these languages can survive only if they are learned by children in a context of bilingualism with the majority language; on the other hand, they offer the opportunity for children to grow up multilingual, with the related linguistic and cognitive advantages (Bialystok 2001; Sanz 2000). Regional languages should be therefore regarded as an important resource not only for the communities in the areas where they are still spoken, but also for Europe as a whole (J. McPake, Tinsley et al 2007).

Many of the regional languages are poorly described and documented. This is an urgent gap to fill for two reasons: first, these languages are declining and it is important to document the linguistic diversity that they represent before it is too late; second, a description and analyses of the structure of these languages is necessary to understand (a) how they are

acquired and how they change in a multilingual context, and (b) the impact they have on multilinguals' linguistic and cognitive abilities.

In sum, the state of the art with respect to multilingualism involving regional minority languages is:

- (a) Many of these languages are poorly documented from a linguistic point of view
- (b) They have not been the focus of research on grammatical changes in language contact situations.
- (c) They have so far not been the focus of research on the reciprocal effects of language and cognition in multilingualism.
- (d) The consequences of regional governmental policies on attitudes, attainment, and sociolinguistic practices are not systematically understood.

AThEME will allow progress beyond the state of the art by:

- (a) providing systematic description and analysis of a number of regional languages/dialects at different levels of linguistic description,
- (b) exploring the grammatical effects of standard languages and regional languages on each other,
- (c) understanding the cognitive implication of multilingualism that involves these languages in comparison with the more extensively studied multilingualism involving standard languages.
- (d) examining the sociolinguistic consequences of existing policies in officially bi-/multilingual situations.

For each of these points, the progress made within this WP can be measured on the basis of the following criteria and research indicators:

- (i) Development and completion of **research tools and techniques** (including questionnaires, experimental designs, small databases) that will be used for collection of the empirical data. (Output years: 1 & 2)
- (ii) Descriptions and analyses of empirical data regarding (a) linguistic diversity, (b) grammar change, (c) language-cognition, and (d) language maintenance. (Output years: 3 & 4)
- (iii) Provide policy briefings translating the research results to inform policy makers with respect to existing and future policies (Output year: 5)

1.2.2. Acquiring and maintaining heritage languages in multilingual Europe.

Heritage language speakers are typically second generation immigrants who grow up learning (at least) two languages: (i) the ethnic or immigrant language that they learn from their parents in the environment of the home from birth/early childhood – their Heritage Language (HL); and (ii) the majority or dominant language, that is the language that is spoken ‘outside the home’, by the (or an) ethnically dominant group in the country or region – the majority or Dominant Language (DL).

Heritage speakers are thus by definition early bi-/multi-linguals, but with a key characteristic singling them out from other populations: they are multilingual speakers whose first language (L1) – that is, the language learned in the environment of the home from early childhood – is an ethnic/immigrant language that does not reach native-like attainment in adulthood. For this reason, heritage speakers do not fit into the dichotomy native vs. non-

native, or L1 vs. L2 (second language) speaker: unlike L2 speakers, they are exposed to the target language during the critical period, but fail to converge on the target, just like L2 speakers. Moreover, heritage speakers exhibit varying degrees of command of their first (heritage) language, ranging from mere receptive competence (so called passive or receptive bilingualism), to proficiency in the two languages, but with a strongly dominant majority language.

The status of heritage speakers highlights a fundamental reality of bi/multilingualism not sufficiently acknowledged: all multilinguals are linguistically unbalanced to a certain extent (be it in their language use or linguistic knowledge), typically possessing a stronger and a weaker language, the relative balance of which can fluctuate over the course of the life span (the balance can be reversed with the weaker language winning over the stronger one) depending on experience and language use. With speakers whose heritage language, moreover, holds low prestige in the ambient society (typically immigrant languages such as Turkish, Arabic or Berber, but also official national European languages such as Polish or Romanian in different EU countries), this linguistic unbalance also reflects the unequal dynamics of power between the heritage and the dominant language, raising the issue of how socio-political factors and, more generally, the relation between language, identity and ethnicity, can affect language acquisition, and contribute to language attrition.

The project AThEME seeks to increase our understanding of the specific linguistic capacities of heritage speakers, as well as the role of the sociological and sociolinguistic context in (heritage) language preservation/attrition, in order to help speakers maintain their heritage language and reach proficient bilingualism (achieve proficiency in both the heritage and the dominant language). This is an important challenge for the EU for at least the following reasons.

Given that children of immigrants represent an increasingly prominent presence in many European school districts¹, the first reason is the sheer size of the population potentially concerned by this form of unbalanced, early bi-/multi-lingualism where a first language – that is, a language to which the child is exposed through the early years of childhood, before the critical period for language acquisition (sometime after age 6 and before puberty), in the home and extended family/immediate community – fails to be completely acquired (so called incomplete first language acquisition, Montrul 2008b), or else undergoes attrition (the speaker's proficiency regresses), as exposure to the dominant language increases, typically because of schooling.

Second, although second generation immigrants represent a substantial fraction of the population and, as such, an important, and growing human resource, heritage speakers, per se, have received surprisingly little attention until recently² (Polinsky 2006, 2008, 2011; Montrul 2008a, b, 2012). That is, although there is longstanding and vibrant tradition of research on

¹ Thus, according to the *Migration Information Source*, “In Amsterdam and Rotterdam, they [children of immigrants] constitute the majority of school children; in Brussels, the second generation constitutes over 40 percent of the school-age population; in London, English is a second language for a third of all schoolchildren.”

² “The terms *heritage language* and *heritage speaker* are fairly new, and they are still poorly understood outside of the USA, where similar concepts are denoted by the phrases “minority language/speaker”. Although the terms are new, the phenomenon has probably been with us as long as language contact has existed and migrations have happened; heritage language development is a common outcome of bilingualism, with one of the languages becoming much weaker than the other.” Benmamoun, Montrul & Polinsky (2010, *White Paper: Prologomena to Heritage Linguistics*).

bilingualism, second language acquisition, and foreign language learning, it is only till fairly recently that *heritage linguistics* has developed into a field of inquiry in its own right, emerging as a new area of research. Heritage linguistics, although drawing on first and second language development, bilingualism, and language attrition, is independent from the investigations of bilingualism and second (or foreign) language acquisition. Heritage language learning is emerging as “the newest area of research and development in the field of language teaching” (Kagan & Dillon 2008).

One of the most interesting developments in the last decade has been the issue of whether early language experience provides heritage speakers with selective (linguistic and/or cognitive) advantages over second language learners acquiring language later in life. Or the question of what heritage language acquisition can tell us about the role of *input* and *language use*, since what singles out heritage (from first) language acquisition is the quality and the time of exposure to (as well, as the opportunity to use) the target language. Crucially, however, research on these issues has focused on the linguistic capacities of speakers of heritage languages in the US or Canada.

This is precisely where the impact, the added value of AThEME lies. The projects seeks to bridge this important gap, by carrying out the first comparative, systematic study across four European countries (France, Germany, the Netherlands, UK), designed to experimentally investigate heritage speaker knowledge (comprehension and production). The study targets two groups of second generation immigrants: speakers of a high prestige HL (German in France, French in the UK, English in the Netherlands) vs. speakers of a low prestige HL (Poles and Slovenians in the UK/Germany, Arabic and Berber speakers in France/the Netherlands) – with comparable structural, cognitive and sociolinguistic aspects studied in all communities.

Finally, the project is also novel in seeking to explore the impact of HLs on the DL (Dominant Language), by investigating the emergence in major European cities, of multi-ethnic dialects, varieties of the DL, displaying characteristics of HLs.

The main research performance indicators will be:

- (i) A cross-linguistic databank on the *sociological* dimensions of HL competence (results of interviews and questionnaires for HL speakers in Germany, the Netherlands, France, and Croatia);
- (ii) A cross-linguistic databank on the *linguistic* dimensions of HL competence (results of protocols experimentally assessing speaker’s comprehension/production of low-prestige heritage languages); and
- (iii) A databank on the features in the DL resulting from direct and /or indirect language contact from the HLs (results of the analyses in the UK).

The output of this research agenda will allow us to raise awareness of HLs as a rich and growing human resource for the EU in the context of our increasingly globalized economy. Specifically, the project will create a sustainable platform in Europe for heritage speakers to exchange ideas and experiences, and to get information on the benefits of acquiring and maintaining HLs. The aim is to lead to greater awareness and understanding of multilingualism involving, *low* prestige (immigrant/ethnic) languages.

1.2.3. Taking care of multilingual European citizens with linguistic and communicative disorders

AThEME intends to improve current knowledge and understanding of the way in which (different forms of) multilingualism affect and interact with communicative disorders. Our project will unfold along the following guidelines:

1. The most recent literature suggests that bi-/multi-lingualism might seriously impact the expression of two common developmental disorders (Specific Language Impairment (SLI) and Developmental Dyslexia (DD))

Here, AThEME intends to contribute to determining how multilingualism exactly affects phonological/morpho-syntactic awareness and interpretive skills in SLI and DD subjects. A number of psycholinguistic and neurolinguistic experimental protocols will be carried out (see OBJECTIVES in WP descriptions) in order to assess which levels of linguistic competence are more deeply affected by bi-/multi-lingualism. More particularly, AThEME strives towards measuring the extent to which communicatively impaired bi-/multi-linguals differ from communicatively impaired monolinguals. In this area of inquiry, a reliable performance indicator will be our ability to provide, in the different phases of our research, increasingly accurate sets of data regarding the different behavioural and neurological responses of communicatively impaired bi-/multi-linguals (with respect to communicatively impaired monolinguals) when tested with respect to their phonological/morpho-syntactic/interpretive awareness in the languages in which they are competent.

2. It is also suggested that multilingualism might have an equally serious impact on the way populations of communicatively impaired bidialectals/bilinguals can be taken care of during treatment and social reintegration after treatment (Da Fontoura and Siegel 1995, Ardila 2003, Miller-Guron and Lundberg 2003, Wydell and Butterworth 1999).

At this level, the project's starting point is the observation that there is still no precise assessment as to how regional/dialectal multilingualism can contribute to the well-being of communicatively impaired bilinguals. A study of natural speech will be conducted in a nursing home in the Netherlands which is the residence of both healthy, elderly bidialectal people as well as of bidialectal Alzheimer patients. A variety of standard ethnographic methods (including participant observation, interviewing and social network analysis) will be employed in order to determine to which extent the use of a regional/dialectal variety as the communication language of healthy and cognitively impaired bi-/multi-linguals in the medical context under scrutiny contributes to the wellbeing of both healthy and impaired elderly people. Here, a reliable performance indicator will be provided by our ability to provide sets of data that bear on the confirmation (or disconfirmation) of the working hypothesis (attachment to the regional/dialectal linguistics variety significantly contributes to the wellbeing of the patients) and (possibly) on the differences that are found in this regard between healthy and cognitively impaired subjects.

3. At the behavioural/cognitive level, many models of analysis have been devised in order to describe DD (and SLI) manifestations in different languages (Crombie 2000, Lundberg 2002). Research at the neural level, though sparse (Paulesu et al. 2001), tends to suggest that there is a universal neurocognitive basis for dyslexia, and that variation in reading performance among dyslexics in different languages is due to different orthographies (Frith 1999, Katz and Frost 1992). Furthermore, several studies confirm the idea that bi-/multi-lingualism can be an advantage for dyslexic children in several aspects of language learning.

Here, AThEME's starting point is the necessity of an accurate assessment of the linguistic dimensions along which multilingualism affects the performance of communicatively impaired subjects. Also on the grounds of the results AThEME intends to achieve through the research program presented at point 1, and by adopting the suggestion made in the most recent literature, according to which learning two or more languages from birth or perhaps in the preschool years could be an advantage for dyslexic children, the project intends to identify the best teaching methods and the best remediation tools in order to maximally exploit multilingualism for the language learning performance of communicatively impaired subjects in different languages. At this level, two reliable research performance indicators clearly emerge: our ability to obtain new significant sets of data as to how multilingualism affects second/foreign language learning in communicatively impaired subjects and our ability to provide concrete indications (for teaching personnel and policy makers in educational settings) as to the learning strategies to be adopted, with particular reference to one of our main working hypotheses, according to which early exposure to (at least) a second language in the child's development might represent a significant cognitive advantage for children at genetic risk of dyslexia.

4. As is well-known, it is quite difficult to disentangle some forms of linguistic and cognitive impairment (SLI and DD) from late or difficult learning tied to some specific form of bilingual experience. New techniques are urgently needed to avoid unnecessary treatment and/or wrong diagnosis and that can provide new approaches to diagnosis.

Here, AThEME will address the serious problems connected to wrong diagnosis of communicative impairment via two venues: 1. by exploiting the techniques of Artificial Grammar Learning as an approach to language independent diagnosis and therapy. Artificial grammar learning (AGL) is an experimental paradigm which has made strong contributions to the understanding of syntactic processing in healthy people and is influencing the investigation of language impairments. A number of AGL-related studies will be carried out aiming at establishing a simple tool or set of tools that can effectively distinguish disordered language ability from normal delays in healthy (bilingual) development. 2. by applying novel signal analysis and signal modelling approaches to the data sets acquired via neuroimaging recordings cortical network signatures associated with healthy and disturbed language processing in multilinguals will be identified. This will provide a method for confirming diagnoses determined by the application of behavioural protocols. In addition, changes in such cortical signatures in response to therapeutic interventions can be monitored and used to inform prognosis.

The main research performance indicators will be:

- (i) A protocol for the acquisition and interpretation of neuroimaging evidence that can discriminate impaired from healthy language processing and which can identify and track relevant changes in brain responses and
- (ii) Detailed proposals concerning the use of AGL as an effective diagnostic tool, in a way that will provide a significant benefit to European education and health care.

1.2.4. Understanding factors contributing to being “successful” multilinguals.

Bi- and multilingual speakers outnumber monolingual speakers in the world's population (Grosjean, 2010). A multilingual is a speaker who has a certain level of competence in at least one non-native language. It has been argued that learning another language is easier and mastery is better when it is acquired at an early age (Flege, 1988). Furthermore, the native

language (L1) characteristics are also known to influence attainment in the second language (L2). Grosjean (2010) cites the example of Norwegian speakers pronouncing “roses” as “rosses” because Norwegian misses the /z/ sound. Factors like age of onset and language distance are known to play a role in ultimate attainment. However, the exact contributions of these and possibly other factors are still underinvestigated. The same holds for foreign accent: many multilingual speakers, even when they are otherwise native-like in a second language, retain a significant foreign accent in the L2. Although, it is well-known that several factors of foreign accented speech impair speech comprehension, whether foreign accented speech has other more pervasive effects in communication settings is still hardly understood. In this context, the project will pay attention to whether foreign accented speech affects various fundamental processes in speech comprehension such as anticipation and integration processes.

Also, the project will assess whether the processes of alignment during dialogue are affected by this property. For instance, it is known that interlocutors align to each other in dialogue situations by copying language material from each other, e.g. using the same lexical items, borrowing referential expressions and even using the same syntactic structures. It is not known so far, whether and in how far, interlocutors speaking an L2 align in the same way and whether similar cognitive mechanisms are at play. In the same line of research, questions like pragmatic abilities of L2 speakers are largely unanswered.

More recently, the pro’s and con’s of being bi-/multi-lingual have been investigated in a broader cognitive perspective. For instance, some studies (e.g. Bialystok et al., 2005) have found evidence that multilingual speakers perform better than monolinguals in tasks that are dependent on executive controls functions like directing attention. Such tasks, including so-called switch tasks where task instructions are changed during the task, require cognitive resources that multilinguals may provide to a higher degree than monolinguals presumably because they often switch between languages. Other studies, in contrast, have not been able to find evidence in support of this. Hence, in this context it is fundamental to assess the reliability and robustness of this effect, and to better specify which cognitive processes are indeed affected by multilingualism.

There have even been studies (e.g. Bialystok et al., 2007) that argued multilingualism may have a positive effect on aging as the onset of neurodegenerative diseases such as Alzheimer’s Disease was found to be delayed in multilinguals as compared to monolinguals. However, before important conclusions can be made, studies like this have to be replicated. At the moment, it is unclear what the broader cognitive advantage is caused by multilingualism. On the negative side, language attrition may become an unwanted side effect of multilingualism if the L1 is used less and less due to the L2 becoming dominant. Can language attrition be avoided? Under which circumstances does language attrition occur? Are there specific attrition effects of a particular language on another? At the moment, there are no clear answers to these questions, as the phenomenon of attrition itself is still not extensively documented.

AThEME will help to advance the field in at least the following three aspects:

1. Investigating factors contributing to L2 acquisition in a multi-tiered set-up:

The added value of the research described in AThEME (WP5) lies in its multi-tiered set-up. Researchers will no longer investigate factors like foreign accent, attrition, language distance or onset of L2 acquisition isolated from one another, but in an integrated approach. As mentioned elsewhere, multilingualism is a multifaceted phenomenon. Only when multiple contributing factors are investigated simultaneously, will researchers be able to make real

progress in this field. For instance, claims about the positive effects of multilingualism on the executive system and its effect on postponing the onset of neurodegenerative diseases have to be confirmed (or disconfirmed) in a multi-tiered approach in which linguists and psychologists work together to control all factors to be considered.

2. Studying the effects of multilingualism on human interaction directly:

The set up of AThEME with its participating institutions located for the most part in areas of intense multilingualism (Catalonia, Basque Country, Slovenia, The Netherlands) stands as a guarantee to face the challenge of investigating multilingualism and its effects on communication, education, cognition and aging. For instance, Spanish and Catalan (same language family) are very similar to each other while Spanish and Basque differ significantly (different language families). With research partners both in the Basque Country and in Catalonia, AThEME is therefore able to investigate the effect of Spanish as an L1 on the attainment of different L2's (i.e. Basque and Catalan) and vice versa, the effect of different L1's (i.e. Basque and Catalan) on the attainment of one L2 (Spanish). Another example would be the Netherlands, where different L2's could be investigated (e.g. English, French, German, etc.) and the influence of these native languages on the attainment of Dutch as an L2 as there are many immigrants from other European countries in the Netherlands.

3. Investigating the effects of multilingual interaction on a neurocognitive level:

Traditionally, multilingualism has been investigated with behavioural methods such as questionnaires and reaction time measurements. In this project, UPF, UL, UR, UEDIN, BCBL, CNRS, UPV/EHU are provided with well-equipped labs including neurocognitive measures such as EEG/ERP and fMRI. That provides the possibility to monitor spatial and temporal activation on a neural level during multilingual interactions. Several partners have substantial expertise in the field of cognitive neuroscience of language. Although a beginning has been made, the challenge will be to include multilingual speakers in neurocognitive experiments that will be run at several sites in parallel.

Scientific progress can be measured using the following research indicators:

- (i) Development of cross-factorial and cross-disciplinary designs to be employed across languages/language pairs and across research sites.
- (ii) Determining the proper multilingual and monolingual samples to address each of the goals included in the different tasks. This is fundamental given the rather different sociolinguistic contexts of the multilinguals involved in the project.
- (iii) Setting-up, carrying out and analyzing data from experimental set-ups and interpreting their contribution regarding communication, education and cognition in multilingual areas.
- (iv) Development and set-up of electrophysiological and hemodynamic measures to gain more insight into the spatial and temporal processing mechanisms of multilingual interactions.
- (v) Integrating the behavioural and neurocognitive experimental results and informing the scientific community as well as societal stakeholders about the outcomes and making recommendations regarding communication and education.

1.2.5 Making Research-based information available to policy makers and the public.

Multilingualism is increasing in Europe. Patterns of migration and professional mobility have led to a massive increase in the number of bilingual and multilingual families. However,

misconceptions about early bi-/multi-lingualism are still thriving. There is still a widespread perception of early bi-/multi-lingualism as an ‘effortful’ activity that may compromise normal cognitive and linguistic development in the child. Still common is also the ‘utilitarian’ popular view that bi-/multilingualism is useful only if it involves widely spoken or prestigious languages – a view that penalizes bilingual children who speak either a minority indigenous language, or a heritage language. This is in contrast with research on bi-/multi-lingual language and cognition, which has shown that bilingualism is beneficial for children’s development in terms of not only awareness of different people and cultures but also better attention, precocious reading skills, and enhanced language learning abilities (see e.g., Bialystok 2009; Bialystok, Craik, Green & Gollan 2009; & Kaushanskaya & Marian 2009; Kovács 2009).

The main indication from research is that multilingualism in Europe is a precious resource for the individual, for society, and ultimately for the European economy. It is essential that research-based information is made available to all sectors of society, so that families, schools, policy makers and other professionals can make informed decisions that concern multilingualism and early language learning in children. Making use of the established public engagement and outreach programme developed by both Bilingualism Matters (BM) (see section B.3.2 for further details), and the SME De Taalstudio, AThEME provides not only an efficient way of disseminating the results of this project, but also an extensive European dissemination network for the promotion of multilingualism which will remain available after the completion of the project to families, practitioners and policy makers.

This project will result in considerable progress in dispelling multilingual myths by raising people's awareness of the facts and benefits of language learning and multilingualism in any languages and bridging the gap between scientific research and society.

The progress made can be measured on the basis of the following criteria:

- (i) Creation of four AThEME national branches of BM, as well as dissemination activities through eight AThEME national branches of BM, which will allow for the establishment of a network of local stakeholders and the systematic delivery of research-informed dissemination activities to be updated on the basis of the project's scientific results.
- (ii) Creation of local resources and information materials in each partner country, some of which will be adapted for more general use in other countries and will contribute to the European dissemination network.
- (iii) Local and national seminars aimed at different categories of stakeholders, with special attention towards policy makers and regional governments with the aim of contributing to policies and decisions about multilingualism.
- (iv) Prominent presentation of the research findings at a large integrated presentation during one of the national events, which attracts a general, professional audience as well as policy makers (see Task 6.5 in Work package 6).

B1.3 S/T Methodology and associated work plan

1.3.1. Overall strategy

The Advancing the European Multilingual Experience (AThEME) work plan is organized in 6 work packages. Our consortium carrying out this work plan involves 16 research partners, and 1 SME. Management activities will be carried out in WP1, research in WP2-WP5, and dissemination activities in WP6 (see WT1 in Annex I for the list of Work Packages). WP1 and WP6 last through the entire duration of the project, which is 60 months. Research WP will start at the second month (at the kick-off meeting). Most PhDs and Postdoc fellows will start the month 6 while others may join the project in phases. See WT2 in Annex I for the list of deliverables and WT3 in Annex I for the list of milestones connected to the Work Packages. The WP timelines, as well as the timing of deliverables and milestones are indicated in the Gantt chart in section 1.3.2.

Each WP has two leaders, who are responsible for the coordination of the research in the WP by organising research meetings (including Skype meetings) to discuss cross-centre/country experimental designs. The Scientific Management Team (see section 2) will monitor the progress and results of each WP by maintaining regular contact with the WP leaders. Progress and results will be presented in consortium meetings.

The WPs have been designed to complement each other but at the same time interact with each other. WP1 (management) and WP6 (dissemination) serve all WPs, providing a frame for the research activities. All research WPs are concerned with the issues of preservation and improvement of linguistic knowledge, stimulation of multilingualism through further understanding of cognitive effects of multilingualism. (See WT3 for the Work Package descriptions). WP2 and WP3 investigate two important types of multilingualism – multilingualism involving regional/minority languages and multilingualism involving heritage languages. WP4 addresses an often neglected aspect of multilingualism – multilingualism in acquired communicative disorders, and it has a special role of providing assessment tools and therapy for clinical practitioners in treating multilingual European citizens with developmental communicative disorders. WP5 investigates several potential factors that contribute to successful multilingualism. WP6 includes important activities disseminating results of the project, through collaboration with *Bilingualism Matters* and the Taalstudio.

The cross-WP research questions will ensure cross-WP collaborations. In particular, each of the following issues will be investigated with respect to *regional/minority* languages (WP2), *heritage languages* (WP3), or other second/third languages (WP5): the question of age of onset (how it affects the preservation of the languages or ultimate attainment), the effect of the sociolinguistic situation (how high/low prestige affects the preservation of the languages, or ultimate attainment or attrition), the effects of multilingualism on the grammar of *regional/minority* languages, *heritage languages*, or dominant languages, as well as cognitive benefits of multilingualism, regardless of the status of the languages used (be it a *regional/minority* language, *heritage language*, or other second/third language).

Furthermore, in WP4, special attention is also paid to bi-dialectal speakers of regional languages and dominant languages.

1.3.2. Data sources and methodology

All research WPs carry out experimental studies, using experimental research methodology. These include (i) behavioural studies (sentence repetition tasks, word or probe monitoring tasks, self-paced reading tasks, comprehension tasks such as truth value and felicity judgment

tasks), (ii) reaction time studies (serial reaction tasks, picture naming, reading aloud, lexical decision), (iii) perception tests, and (iv) executive function studies (attentional network tasks, spatial negative priming tasks). WP4 and WP5 will additionally employ (v) electrophysiological studies (such as EEG/ERP) and (vi) neuroimaging studies (such as fMRI).

The logic behind most behavioural tasks is to infer properties of the cognitive representation or processing of linguistic entities by measuring the interval between the presentation of a stimulus (e.g., presentation of a word, a sentence, or a picture) and the response (e.g., a verbal response or a manual reaction such as a button press). To give an example, participants could be presented with a string of letters and ask to decide whether it constitutes an existing word in their first or second language (button-press reaction) or read the letter string out loud (voice-key reaction). Using this methodology, different experimental conditions can be compared.

Electrophysiological and neuroimaging tasks on the other hand aim at investigating the spatio-temporal representation or processing on a neural (neurocognitive) level. Often, neuroimaging designs have no additional task for the participants because behavioural responses may interfere with the neurocognitive response to the stimulus. The neurocognitive response to the stimulus is often compared to a control situation without that stimulus.

Behavioural and neuroimaging (EEG/ERP, fMRI) typically involve subject cohorts of between 20 and 30 individuals. There is a trade off between the number of subjects run and the number of trials a given subject is asked to carry out with respect to acquiring sufficient statistical power. Therefore the number of subjects may vary between experimental protocols employed by the researchers.

Raw data of both behavioural and neurophysiological/neuroimaging experiments will be pre-processed before they can be analyzed using computerized data analysis packages such as SPSS, Brain Vision Analyzer, or SPM as well as bespoke analytic and computational modelling approaches. All behavioural and neurocognitive data will be preserved along with links to the analytics used. An anonymized version of this database will be made available via publically accessible servers hosted at the University of Reading's Centre for Integrative Neuroscience and Neurodynamics.

WP3 will collect psycholinguistic data on the knowledge that speakers have of their heritage language(s), using the standard experimental methods for testing morphosyntactic/semantic knowledge: elicited productions techniques under controlled discourse contexts, methods for assessing comprehension (truth value and felicity judgment tasks), as well as spontaneous production data collection procedures, with coding and transcription of data into computerized data-banks, and quantitative/statistical analysis of the linguistic data collected.

WP2 will collect new data for a variety of regional/minority languages and dialects, including among others, Basque (dialects) [Spain/France], Frisian, Low-saxon and Limburgian dialects [The Netherlands], Gallo, Poitevin, Picard (Langues d'oil) [Northern part of France], the Bavarian dialects [both in North and South Tyrol], including the Cimbrian and Mòcheno varieties, the Ladin varieties, Lombard [in Western Trentino], local varieties of Slovenian and Venetian [in Eastern Trentino and Veneto, especially in the province of Verona]. WP3 will also collect sociolinguistic data for a variety of heritage language-region combinations (e.g., German in France, Polish in Germany, Arabic in the Netherlands).

This line of research will use the canonical methodology of (socio)linguistic field work, including: native speaker consultation with data elicitation on the basis of interviews, questionnaires, audio recordings of spontaneous production data, storyboard techniques. Data from the elicitation sessions will be coded, transcribed, translated, and incorporated into

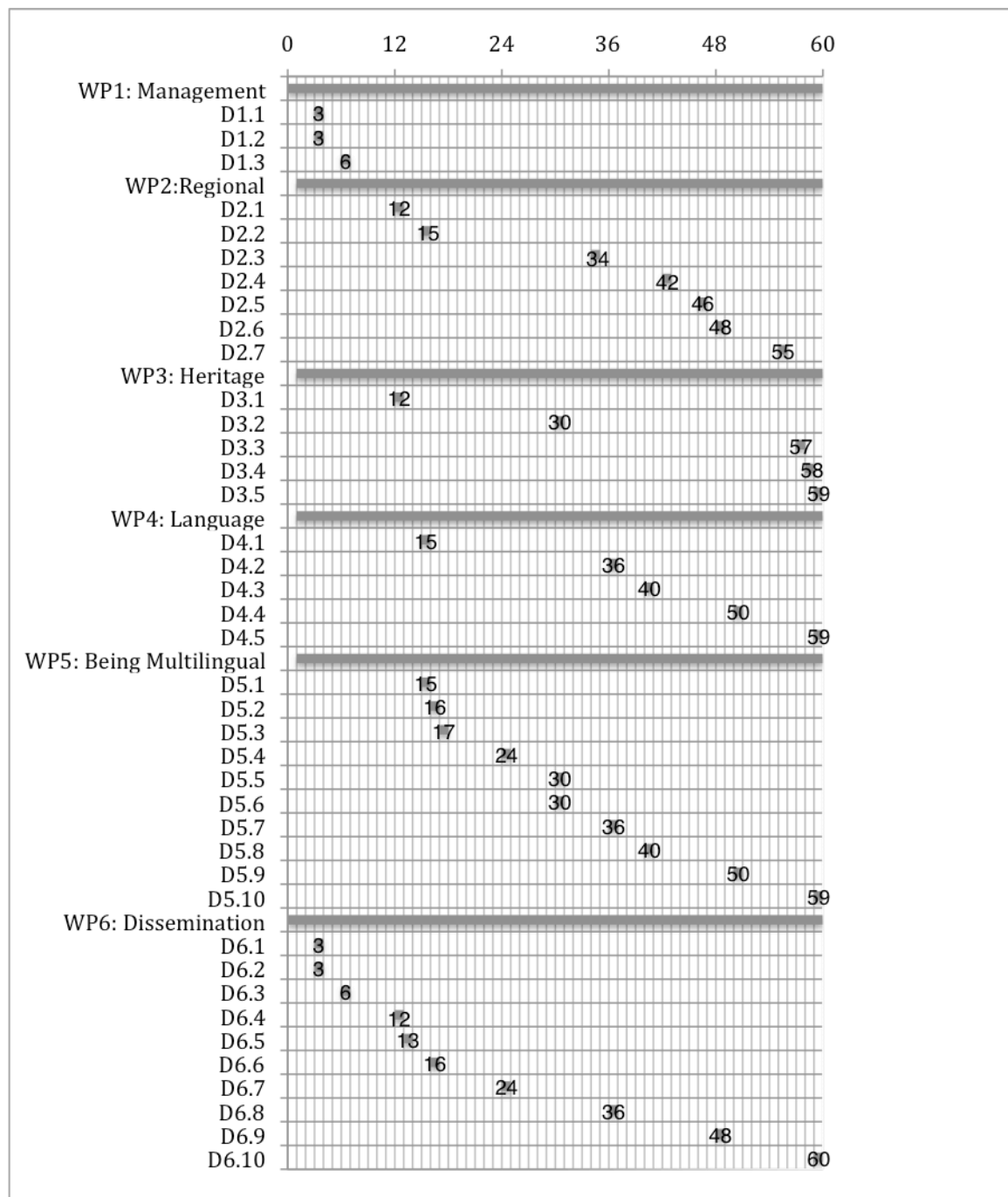
databanks in which data can be searched and compared in a systematic way. Besides the collection and storage of new data, existing data resources will be used for research, among which the large Dutch dialect database Mimore (<http://www.meertens.knaw.nl/mimore/>), the Dutch-Frisian Language Portal (<http://www.taalportaal.org/>), corpora (e.g., containing data on (variants of) Basque), and the database from Queen Mary University of London on Multi-ethnic London English (MLE).

1.3.3. Risk analysis and associated contingency plan

The risks related to the work in the project are limited. The planned work may relate to the following risks:

- *Data availability.* The data are either at the disposal of the participants, or they are to-be-collected data based on experimental methods and (socio)linguistic field methods mentioned in section 1.3.i. The risk is thus practically non-existent.
- *Not enough experimental subjects.* The languages chosen in the project all come from substantial representative groups in the respective countries. Based on the support of regional governmental agencies as well as stakeholders, the project does not expect to have difficulties in recruiting subjects. In the case of WP 4 which also deal with dyslexic subjects, though recruiting dyslexic subjects (and most notably dyslexic children) for neuroimaging-ERP experiments often delivers problems, especially due to the incidence of comorbidity in the relevant population, all academic centers and labs involved in the project have a successful record of cooperation with the local health care institutions to which dyslexics are normally referred to. The partners of the AThEME project therefore do not expect particular difficulties in recruiting subjects.
- *Excellence of research.* The participants in the project and the leaders of the work packages are well-known scientists. The expected contributions to science have been carefully selected on the basis of previous track-record.
- *Relevance.* Relevance of scientific research and project activities to needs of policy makers and stakeholders is supported by the stakeholders and the Advisory board.
- *Dissemination.* The SME partner *TaalStudio* as well as *Bilingualism Matters*, the bureau established by our Edinburgh partner, have a rich experience in dissemination. From the planned branches *Bilingualism Matters*, and the activities organized transnational effects are ensured.
- *Drop-out of consortium partners.* The project uses a back-up procedure organized as follows. The coordinator will be replaced by Utrecht University (Prof. Norbert Corver) in case of a drop-out (although unlikely). A drop-out of a work-package leader will leave the other leader in charge of the work package. The Steering Committee may recommend the choice of a substitute which will be approved by the General Assembly. The Consortium agreement will set up a detailed contingency plan, along with the case of drop-out of key individual participants.
- *Drop-out of individual participants.* The back-up procedure applies again. When necessary, the procedures include action of the coordinator and of the Steering Committee designed according to the specific case.

B1.3.4 Timing of work packages and their components



B2. IMPLEMENTATION

B 2.1 Management structure and procedures

The *Advancing the European Multilingual Experience* project will be carried out through the coordinated activities of 16 research partners and one SME. Leiden University is responsible for the overall coordination, with Lisa Cheng as project coordinator, supported by a scientific management team with respect to the scientific coordination, and by a project manager as executive manager (half time) for the day to day management of the project.

Leiden University (UL) is a prestigious and productive research institute in the Netherlands, which was ranked 65th worldwide in the 2011 Academic Ranking of World Universities (ARWU; also known as Shanghai Ranking). Leiden has approximately 20.000 students (of which 700 doctoral students) and 4000 staff members. The 2011 annual budget was about 220 million Euros, of which 61% financed research activities. In the past years, on average 25% of the NWO Spinoza Prizes, (the most prestigious academic distinction in the Netherlands, which is also internationally valued) was awarded to Leiden researchers. Leiden University is an internationally oriented institute: in 2002, it was involved, together with 11 other prominent European universities, in setting up the League of European Research Universities (LERU). In the past 5 years, 10 researchers at Leiden were awarded an ERC Starting Grant, and 14 an ERC Advanced Investigator Grant.

The Leiden University Centre of Linguistics (LUCL) brings together all linguistic research within the Faculty of Humanities. In the past year, the faculty awarded 65 PhD degrees. LUCL works closely with the Leiden Institute for Brain and Cognition, which is an interdisciplinary research centre, with the participation of the Leiden University Medical Centre, the Faculty of Social Sciences and the Faculty of Science.

The project coordinator, **Lisa Lai-Shen Cheng**, is Chair Professor of Linguistics with expertise in comparative syntax, syntax-phonology interface and syntax-semantics interface. In the past two year, Cheng has also presented work in syntactic processing. Cheng has ample research coordination experience (coordinating NWO grants) and administrative experience (Chair of an ERC panel). In 2007, Cheng initiated an European network funded by the Dutch National Science Foundation (NWO), which forms the basis of the current consortium.

The project coordinator supported by the project manager will be the contact person to the European Commission, responsible for:

- the implementation of the work programme of the project;
- financial management and control;
- handling all administrative matters;
- chairing the consortium meetings, and meetings with the Advisory Board, the Steering Committee and the General Assembly;
- timely receipt of deliverables from the work packages;
- timely submission of meeting minutes and the scientific and financial reports to the European commission;

The project manager will have thorough experience in administering EU projects (application, implementation, auditing). He/she will be in charge of the correct project administration, the operation and control of the project. More specifically, the project manager will:

- handle all budget related tasks of the project;
- ensure the correctness of the project implementation;
- supervise the timely receipt of the promised deliverables;

- maintain a close contact to the Scientific Management Team;
- function as the primary contact for the offices of the Commission services, all partners, the project consortium, public authorities as well as the wider public.

The project manager will be supported by the financial department of the Faculty of Humanities and in case of legal and IPR issues assisted by the Leiden University Research and Innovation Services. (LURIS).

With respect to the scientific coordination, next to the project coordinator, the Scientific Management Team (SMT) includes Professor Norbert Corver from Utrecht University and Professor Antonella Sorace from the University of Edinburgh. Professor Antonella Sorace is the founder and director of *Bilingualism Matters*, which is a non-profit organisation providing advice and information on child bilingualism based on current language research. Professor Norbert Corver from Utrecht university has led a project on syntactic micro-variation (funded by NWO), and is currently involved in *The Language Portal Dutch Frisian*, a project funded by NWO which aims at the development of an interactive knowledge base about the two official languages of the Netherlands. The Scientific Management Team (SMT) will be responsible for:

- monitoring the quality of the deliverables submitted by the work packages;
- addressing scientific issues and problems that possibly arise as the project progresses;
- overseeing the reports to be submitted to the European Commission.

The project coordinator and Scientific Management Team will benefit from the advice and suggestions of the consortium Advisory Board in their work. The Advisory Board consists of distinguished scholars of research on multilingualism in Europe and in the USA. Advisory Board members will meet the project coordinator and management team at meetings organised in relation to the consortium meetings (4 meetings altogether: at the kick-off meeting in Leiden, the consortium meetings in Edinburgh, Barcelona, and Verona). Between the meetings, Advisory Board members will be updated regularly via email regarding the progress of the project. The seven members of the Advisory Board, all of whom confirm participation, are:

Professor J. (Joseph) E. Aoun is the seventh president of Northeastern University in Boston, Massachusetts, where he took office on August 15, 2006. Prior to his presidency at the Northeastern University, he was Dean of the College of Letters, Arts, and Sciences at the University of Southern California. During this time, he served as head of the academic Senate. In 1981, he received his PhD in Linguistics from the MIT (Cambridge, Mass.).

He was presented with the Chevalier de L'ordre des Palmes Academiques (Knight of the Order of the Academic Palms) by the French Government (2006), and with the Robert A. Muh Award from MIT's School of Humanities, Arts and Social Sciences (2011). He is a Fellow of the American Academy of Arts and Sciences (2010), Fellow of the Linguistic Society of America (2011), Chair of the American Council on Education, and member of the academic advisory council for the US Department of Homeland Security.

He is a leader in higher education policy and an internationally renowned scholar in linguistics. As a president, he has strategically aligned the University's research enterprise with three global imperatives – health, security, and sustainability – which are addressed from an interdisciplinary perspective. As a respected voice on global education, he has enhanced the University's program with flexibility and global opportunities: students and researchers work and study in countries all over the world.

Professor C. (Camilla) Bettoni (University of Verona, Italy) has been a professor at the department of Philology, Literature and Linguistics at the University of Verona since 2002. Before that, she worked as an Associate Professor at the University of Verona (1997-2002) and the University of Padova (1992-1997), and as a (Senior) Lecturer at the University of Sydney, Australia (1986-1992). She received her PhD from the University of North Queensland, Australia (1981). She is currently responsible for a FIRB project (that aims to maintain and develop cultural and linguistic skills of 2nd and 3rd generation emigrants from Italy) and coordinator of the PhD program in Linguistics at the University of Verona.

Bettoni is an applied linguist, specialising in the areas of bilingualism and language contact. Her main research fields are second language acquisition, first language loss, cross-cultural and interlanguage pragmatics, the (socio)linguistics of migration, language policy, and language education, with particular attention to: (a) Italian as a second language, in the case of foreign immigration to Italy; and (b) Italian in contact with English, in the case of Italian emigration abroad.

Professor E. (Ellen) Broselow (University of Stony Brook, New York, USA) has worked at the Department of Linguistics at the Stony Brook University for 30 years (1983-present), first as an Associate Professor (1983-1993), since then as a Full Professor. She received her PhD in Linguistics from the University of Massachusetts (Amherst, 1976).

Broselow has been the Editor of 'Natural Language and Linguistic Theory' (1989-2002) and is now in the Editorial Board of several leading journals in (applied) linguistics (Second Language Research, Linguistic Inquiry, Language and Linguistic Compass, among others), works as scientific referee for several journals and funding agencies (such as 'The National Science Foundation') and is a member of several LSA committees (such as the 'Committee on the Status of Women in Linguistics').

Broselow's research is in the areas of phonology, second language acquisition, and the interface of phonology with phonetics, morphology, and syntax. Languages and language families she has worked on include Arabic, Salish, Bantu, and Indonesian languages of Sulawesi. In second language phonology, she has studied the adaptation of loanwords and the errors made by second language learners in production and perception. One of her current projects investigates the extent to which second language production errors reflect misperception.

Professor L. (Ludwig) M. Eichinger is the Director of the Institut für Deutsche Sprache (IDS; Institute for German Language) in Mannheim (Germany) (2002-present) and Professor of Germanic Linguistics at the University of Mannheim. The IDS is the most prominent non-university organization for research in and documentation of modern German language and is part of the Leibniz-Association. Prior to this, he was a professor at the University of Passau and the University of Kiel and received his PhD from the University of Bayreuth (1980). Beside his position in Germany, he holds guest professorships in China, Mali, Burkina Faso, USA and Austria. He also is a member of the 'Akademie der Wissenschaften und der Literatur' (Academy of science and Literature') (Mainz), the Austrian Academy of Sciences, the advisory board of the German DAAD commission for German studies, the (linguistic) advisory board of the Goethe Institute and the council for German orthography.

Eichinger's main research interests are morphology and syntax, as well as regional languages and sociolinguistics (of linguistic minorities). He was actively involved in the recent revision of German orthography rules.

Professor A. (Aafke) Hulk (University of Amsterdam, The Netherlands) is the Director of the Netherlands Institute for Advanced Studies (NIAS) (Wassenaar) (2010-present) and a Professor of French linguistics at the University of Amsterdam. She received her PhD from

the University of Utrecht and acquired a position as Associate Professor, and later of full Professor at the University of Amsterdam, where she became Dean of the faculty of Humanities in 2003. She was guest-researcher at the Meertens Institute, as collaborator and supervisor of an international, NWO funded project on 'Early successive bilingualism'. She has always combined her international research with an active participation in management tasks and board memberships of committees and organisations involved with the planning, funding and organisation of academic research (member of the governing board of NWO: 1999-2004).

Her main research interests are early child bilingualism (in particular cross-linguistic influence and vulnerability), first and second language acquisition of Romance and Germanic syntax and the interaction between linguistic theory and language acquisition.

Professor M. (Maria) Polinsky (Harvard University, USA) is a Professor of Linguistics (2006-present) and the Director of The Polinsky Language Sciences Lab at Harvard University. Previously, she received her PhD from the Russian Academy of Sciences (1986), was an assistant professor in 1991 and an associate professor in 1995 at the University of Southern California. She joined the University of California, San Diego, as an associate professor (1997), and became full professor and chair of the Department of Linguistics in 1999. She has been a visiting professor at the Max-Planck Institute for Evolutionary Anthropology in Leipzig, Amsterdam University, the University of California, Berkeley, and MIT; an associate editor of the journal 'Language'; an expert on the funding panel of the NSF, and is currently on the editorial boards several journals.

Polinsky's linguistics lab examines questions of language structure and its effect on the ways in which people use and process language in real time. The focus of the research is on heritage speakers (speakers who became less fluent in their native language and are now more fluent in a socially dominant language) and (immigrant) children who acquired a language incompletely. The research includes speakers from a broad range of languages (the Lab maintaining strong relations with linguistic communities across the world, such as Austronesian and Northeast Caucasian communities).

Professor T. (Tomas) Riad (Stockholm University, Sweden) has been a professor at the Department of Scandinavian Languages at Stockholm University since 1992. He has also worked at Stanford University in the United States and the University of Vilnius in Lithuania. He received his Ph.D. from Stockholm University (1992). Riad is also a violinist, and studied music at the Royal College in London. In 2011 he became a visiting researcher at the University of Saint-Denis in Paris. Riad was elected a member of the Swedish Academy (2011), a cultural institution that among other things decides on the Nobel Prize winner in literature. Riad's research focuses on phonology and prosody. He has a special interest in multilingualism and he joined the 'Taaltrotters Abroad' program in 2006. Taaltrotters Abroad is an educational multimedia project for pupils from 12 to 16 years old, about language awareness, multilingualism and linguistic diversity.

The project coordinator and Scientific Management Team will be supported in their scientific coordination activities also by the Steering Committee, comprising all work package (co-) leaders, and by the Ethics Advisory/Monitoring Board. Given the large consortium size and thus large number of partners involved in the work packages, most work packages will have two leaders, who are jointly responsible for the coordination of the work within the work package, ensuring the timely provision of the deliverables to the project coordinator. Steering Committee Meetings will be held during the consortium meetings. Members of the Steering Committee are (in work package order); the project coordinator (also leader of WP1), members of the SMT (Norbert Corver (also co-leader of WP2), Antonella Sorace (also the co-

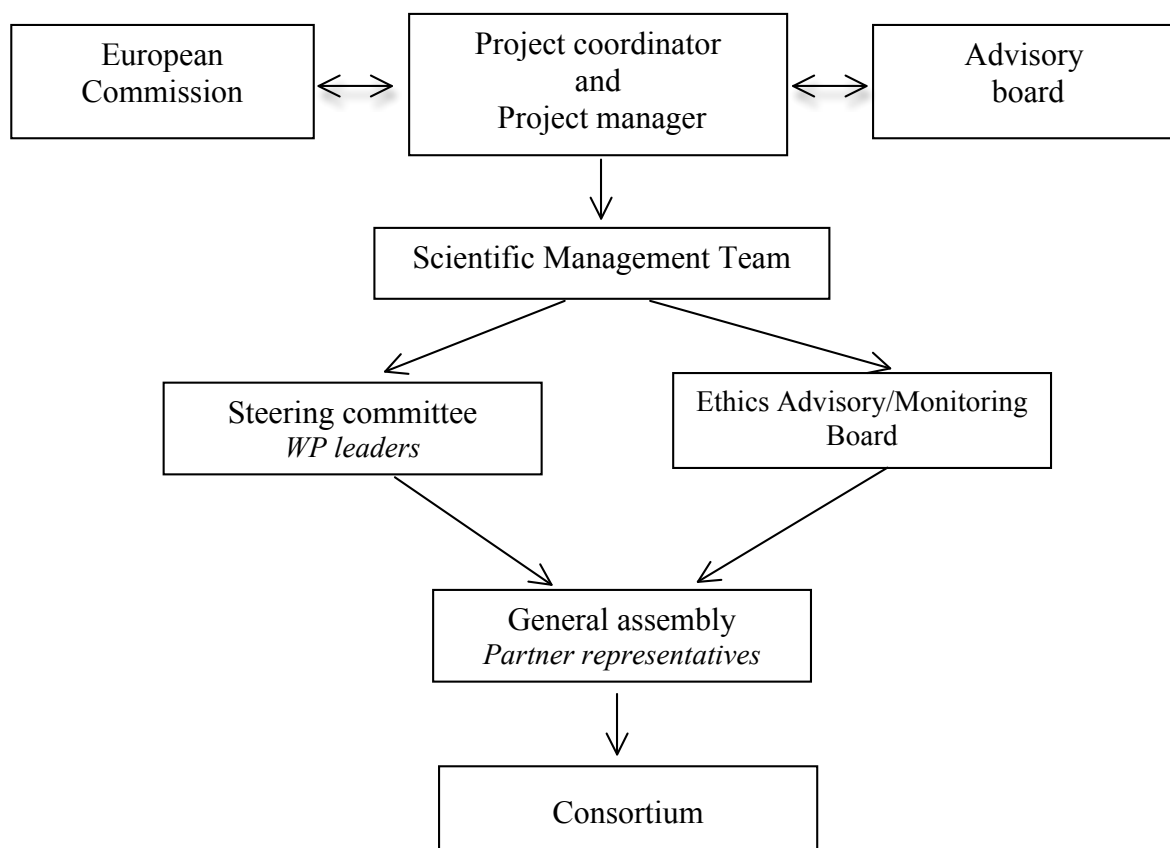
leader of WP2 and WP6)); Hamida Demirdache (UN, WP3), Janet Grijzenhout (UKON, WP3), Douglas Saddy (UR, WP4), Denis Delfitto (UNIVR, WP4), Niels Schiller (UL, WP5), Albert Costa (UPF, WP5), and Maaïke Verrips (TS, WP6).

The Ethics Advisory/Monitoring Board will be led by an External Independent Ethics Advisor. The members of the Ethics Advisory/Monitoring Board will be appointed by the General Assembly at the start of the project. Before month 6, an ethical screening protocol for the project will be developed and all research tasks of AThEME will follow this protocol. The Ethics Advisory/Monitoring Board will monitor the ethical screening procedures in the WPs. The External Independent Ethics Advisor will coordinate the preparation of the reports, which will be sent to the European Commission together with the Periodic reports.

The next level of management structure is the General Assembly, comprising a representation of each partner. It will decide about substantial changes in work packages and tasks if necessary. The exact responsibilities of the different consortium bodies will be described in the Consortium Agreement.

See Figure 1 below: *Management structure* for a graphical representation of the management structure.

Figure 1: *Management structure*



B 2.2 Beneficiaries

All beneficiaries have confirmed that only the persons employed by the beneficiaries will be charging personnel costs.

Beneficiary 1: Leiden University Centre for Linguistics (LUCL)/Leiden Institute for Brain and Cognition (LIBC) – Leiden University (UL) – The Netherlands

Leiden University is a prestigious and productive research university in the Netherlands. UL has approximately 19.000 students (of which 700 doctoral students) and 4000 staff members. In the past years, on average 25% of the NWO Spinoza Prizes, (the most prestigious academic distinction in the Netherlands, which is also internationally valued) was awarded to UL researchers. UL is an internationally oriented institution: in 2002, it was involved,, together with 11 other prominent European universities, in setting up the League of European Research Universities (LERU). In the past 5 years, 10 researchers at UL were awarded an ERC Starting Grant, and 14 an ERC Advanced Investigator Grant.

Leiden University concentrates its research activities in eleven research profile areas that transcend the traditional boundaries between specialist fields and faculties. These profile areas offer opportunities for top-level interdisciplinary fundamental research, but also reflect key areas of debate in contemporary society. Both LUCL and LIBC are profile areas of the university. The **LUCL** brings together all linguistic research within the Faculty of Humanities. LUCL researchers have broad expertise in a large number of the world's languages, including many languages of Africa, North/South America, Asia, Oceania and Europe. The **LIBC** is an interfaculty center for interdisciplinary research on brain and cognition. Several LUCL members are also members of the LIBC.

Key persons

Niels O. Schiller, Professor of Psycho- and Neuro-linguistics; main research interests include syntactic, morphological, and phonological processes in mono- and bilingual speech production and reading aloud. He was the principal investigator of the Dutch NWO VICI-project 'The neuro-cognitive basis of self-monitoring in speech production'. He currently is the leader of the interfaculty research group for language and cognition (LIBC-Language). WP5.

Lisa L.S. Cheng, Professor of Linguistics; main research interests including syntactic processing of complex structures, comparative syntax, syntax-phonology interface and syntax-semantics interface. She was the principal investigator of the Dutch NWO programme on 'Word Order and Morphological Marking in Bantu'. She was the Coordinator of the European Network on 'Bantu, Chinese and Romance Nouns and Noun phrases' (funded by NWO), which involve several of the participants in this consortium. In recent years, she has started research on sentence processing concerning negative polarity items and interrogatives. WP1, 5.

Johanneke Caspers, Senior Lecturer, Department of Dutch Studies. Her research focuses on the acquisition of prosody (pitch accents, boundary tones, word stress) in Dutch as a second language and on the influence of prosodic errors on the intelligibility of L2 speakers. She defended her thesis entitled 'Pitch movements under time pressure' in 1994. A postdoctoral research project on the meaning of melodic elements in Dutch started in 1995, and was followed by a second postdoctoral research project on the function of melodic elements in Dutch dialogue. WP5.

Maarten Kossmann, Senior Lectures, Department of African Languages and Cultures. He has worked extensively on language description, language history and language contact,

mainly - but not exclusively - in Northern Africa (seven books + two in press). He obtained his PhD at the same university in 1994, the title of the dissertation being: ‘Grammaire du parler berbère de Figuig (Maroc oriental)’. WP3.

Maarten Mous, Professor of African Linguistics; His research interests lie in Language Contact, Language and Identity, and African languages. He received his MA in African Linguistics at the University of Leiden where he also obtained his PhD in 1992 on a thesis entitled ‘A Grammar of Iraqw’. He had a Post-Doc position at the University of Bayreuth and was from 1994 Assistant Professor and since 2004 full professor African Linguistics at Leiden University. He is member of the Royal Netherlands Academy of Arts and Sciences. WP3.

NN: One PhD student (4 years full time) to be recruited. WP5. This PhD student must have some previous training in psycho-/neurolinguistics and theoretical linguistics.

NN: One project manager 0,5 fte (5 years) to be hired for WP1. The project manager will have thorough experience in administering EU projects (application, implementation, auditing).

Main tasks:

Leiden is responsible for the central scientific coordination as well as the financial and day-to-day management of the project. The key persons as well as the to-be-hired junior or post-doc fellows will participate in the Work package 3 and WP5. In particular, the Leiden team will study accents from two different perspectives. In WP3, the emphasis is on the ethnolects (e.g., Moroccan Dutch), and the rhythmic structure of Moroccan Dutch, while in WP 5, the emphasis is on the processing of accented speech and alignment processes in dialogues involving non-native speakers.

UL will also contribute to WP6 by participating in dissemination events.

Beneficiary 2: Université de Nantes (UN) – LLING (*Laboratoire de Linguistique de Nantes, EA 3827*) – France

With 3,200 research staff members working in 75 research units, 8 post-graduate schools and 33,000 students enrolled each year, the Université de Nantes (UN) is one of the largest multidisciplinary universities in France. The LLING lab (*Laboratoire de Linguistique de Nantes*) received the highest evaluation score (A+) from the French *Evaluation Agency for Research and Higher Education* (AERES) both for its track record (2008-2010) and the vitality of its research collaborations (2012-2017).

The members of the team are known for their combined expertise in theoretical and experimental linguistics, their strong involvement in research on French regional languages (in particular, Breton, and the Gallo and Picard ‘*Langues d’Oil*’), as well as Afro-Asiatic languages – the unit coordinated the *Oral Corpus for Afroasiatic Languages* (CORPOFROAS) project selected by the French National Agency of Research (ANR, 2006-2010). As such, the LLING will contribute to WP3 on Heritage Languages an invaluable expertise on Semitic and Berber, and to WP2, a unique expertise on minority languages in Northern France.

Key persons

Hamida Demirdache (PhD in Linguistics, MIT) is Full Professor in Linguistics since 2008 at the University of Nantes and director of the **LLING** laboratory. Her research lies at the syntax, semantics and first language acquisition interface. Over the past decade, she has actively sought to develop a truly multidisciplinary research paradigm by combining theoretical linguistics and psycholinguistics to pursue the same broad research questions

across child and adult languages – namely in the area of tense in its interaction with modals and aspect, anaphora, or the syntax and semantics of questions. In 2003, she was awarded the *Descartes-Huygens prize* by the The Royal Netherlands Academy of Arts and Science (KNAW). She will be the leader of WP3 and a contributor to WP2.

Orin Percus (PhD in Linguistics, MIT) is Full Professor of Linguistics at the University of Nantes. He investigates the ways in which sentence meaning depends on syntactic structure; as such, his work draws on formal semantics, formal pragmatics and syntax. He is co-director of an electronic journal of technical notes in syntax and semantics (*Snippets*). Publications : **Percus**, 2011, ‘Gender Features & Interpretation: a case study’, *Morphology* 21:2. **Percus**, 2000, ‘Constraints on some other variables in syntax’, *Natural Language Semantics* 8. He will contribute to WP3.

Nicolas Guillot, Lecturer (*Maître de Conférences*) in Linguistics (Nantes) and member of the SYMILA project, is an expert in descriptive and formal syntax and semantics from a comparative perspective (Celtic/Breton; Romance/French, Gallo; Semitic/Jordanian Arabic, Hebrew). Publications: **Guillot**. 2006. ‘A Top-Down analysis for Reconstruction’ *Lingua* 116, *special edition on Celtic Languages*. He will contribute to WP2.

Marie-Ange Dat, Lecurer (*Maître de Conférences*) in Psycholinguistics (Nantes), is an expert in early second language acquisition who has worked extensively on multilingualism of migrants. Spanghero-Gaillard & **Dat**, 2010 ‘Enseignement de la Langue et Démarche d'Intégration’ in *Langue et intégration. GRAMM-R Studies of French Linguistics* 6, P.I.E. Peter Lang. She will contribute to WP3.

NN: One postdoc researcher (full time) specializing in psycholinguistics to be recruited, WP3 on a 2-year contract.

NN: One PhD student (full time) to be recruited, WP2. The PhD student will have solid background in theoretical linguistics. (3 year contract)

NN: One part-time administrative assistant (in total 5 months) to be hired for four years to coordinate the France branch of *Bilingualism Matters* for dissemination purposes. WP6

Other personnel from the lab will also partially take part to the project. However, the corresponding staff cost will **not** be charged on AThEME:

Jean-Marc Beltzung, Lecturer (MCF), WP2; **Cyrille Granget**, Lecturer (MCF), WP3; **Ali Tifrit**, Lecturer (MCF), WP2; **Anne Dagnac**, *Maître de Conférences* in French Linguistics in another research entity (Toulouse University, France) is also an associate member of the LLING, WP2.

Main tasks:

The key persons of UN together with the recruited staff will focus on WP2, 3, 5 and 6. As the Leader of WP3 ‘Heritage languages and language users in the EU’, UN will be in charge of carrying the experimental investigation of Heritage language knowledge. UN will contribute as a partner to WP2 to work on the *Langue d’oil*, Gallo. The contribution to WP5 concerns the investigation of the acquisition of semantic vs. pragmatic multilingual knowledge.

UN will coordinate the AThEME dissemination activities in France via the new French national AThEME branch of *Bilingualism Matters*.

Beneficiary 3: Utrecht University (UU) – The Netherlands

Utrecht University (founded in 1636) is an internationally renowned research university. The Shanghai Ranking ranks the university worldwide on a 53rd place. The university has appr. 30,000 students and 5,295 staff members. Utrecht University has organised its top research into 15 focus areas, including, among others, Neuroscience and Cognition, Cultures and Identities, and Coordinating Societal Change. Drawing on the foundation of these focus areas, the University continues to build an integrated approach to addressing scientific and societal problems. Its choice of four new strategic research themes (sustainability, life sciences, institutions, and youth & identity) has enabled the bringing together of knowledge from different disciplines. Utrecht University is a member of internationally renowned networks such as the League of European Research Universities (LERU). Utrecht collaborates with universities, knowledge institutions and businesses at the regional, national and global levels.

Key persons

Norbert Corver (Dr.; PhD, Tilburg university) is professor of Dutch linguistics at Utrecht university. His main research areas are formal syntax, micro- and macro-comparative syntax, syntax at the interface with morphology, information structure and affect. He was project leader of a NWO-funded research project on syntactic micro-variation (i.e., dialectal variation) in Dutch nominal expressions. He currently leads an NWO-funded research project on the structure of idioms across Dutch dialects (in collaboration with HU Brussels) and is involved in the NWO-funded research project ‘The Language Portal Dutch Frisian’, which aims at the development of an interactive knowledge base about the two official languages of the Netherlands. WP1, 2.

Marjo van Koppen (Dr.; PhD, Leiden University) is associate professor of Dutch linguistics at Utrecht University. Her PhD-project on agreement in Dutch dialects was part of the NWO/FWO-funded project SAND-project, which investigated the syntax of the Dutch dialects. Her specialisations are formal syntactic theory, dialectology and diachronic linguistics. She is project leader of an NWO Vidi-project on uniformity in linguistic variation, which tries to establish whether variation between typologically unrelated languages like Japanese and Swahili can be brought back to the same set of variables as the variation between related languages and dialects like Dutch and German or Middle Dutch and Modern Dutch. She is also one of the supervisors of an NWO-funded program on micro- and macro-variation in possessive constructions (in collaboration with Leiden University) in closely. Marjo van Koppen is associate editor of *Lingua* (Elsevier) and *Linguistic Variation* (Benjamins). WP2.

Jacomine Nortier (Dr.; PhD, Amsterdam university) is associate professor in sociolinguistics and multilingualism at Utrecht Institute of Linguistics UiL-OTS, University of Utrecht. After the study of linguistics in Amsterdam and obtaining her PhD grade in 1989 (Code-Switching Dutch/Moroccan Arabic, supervised by professor Pieter Muysken), Nortier held a position as a postdoctoral fellow at the University in Nijmegen; since 1992 she has held positions at Utrecht University, first as an assistant professor (until 2001) and currently as an associate. She has published on the topics of code-switching, multilingualism and the emergence of urban youth languages and ethnolects. WP3.

NN: PhD student (full time, four years), with basic training in formal linguistics, WP2. The PhD will carry out formal linguistic, cross-dialectal research (based on theoretically informed questionnaires).

Main task:

Utrecht's main contribution concerns WP2. Together with UEDIN, UU is the leader of WP2. The UU research team will focus on research concerning the nature of morphosyntactic microdiversity in a range of Dutch dialects, and regional languages (including Frisian). This team will consist of one to-be-hired PhD-student (4 years) and two key researchers, who will act as supervisors of the PhD-student. UU will further contribute to WP3 by investigating the sociolinguistic variables conditioning acquisition of a heritage language. Finally, UU is a member of the Scientific Management Team of AThEME.

UU will also contribute to WP6 by participating in dissemination events.

Beneficiary 4: The University of Reading (UR) – United Kingdom

The University of Reading is a global University ranked in the top 1% of universities world-wide and is one of the UK's top research-intensive universities. The UR is ranked in the top 20 for the number of awards it received from research councils for 2010/11. In total, researchers at the UR received 38 awards, placing Reading at position 20 out of 218 institutions. In the RAE 2008, over 87% of the university's research was deemed to be of international standing. The University of Reading is a member of the 1994 Group of 19 leading research-intensive universities. The Group was established in 1994 to promote excellence in university research and teaching. Each member undertakes diverse and high-quality research, while ensuring excellent levels of teaching and student experience.

UR has an excellent reputation in Clinical Language Sciences, both for research and teaching, and runs a number of NHS clinics, including SLI and aphasia clinics. The Centre for Integrative Neuroscience and Neurodynamics (CINN) is an interdisciplinary research centre that combines a range of technologies (hardware-accelerated computing cluster, research-dedicated 3T MRI, 128-channel EEG, TMS) with researchers from the fields of psychology, engineering, mathematics, cybernetics, brain imaging, pharmacy, systems biology and clinical language sciences. CINN's language-related research includes, among other things, aphasia, multilingualism and also artificial learning paradigms. The UR recently invested in a new Centre for Multilingualism which combines expertise in the area from the Departments of CLS, Education and CINN, and which has hired three new high-level researchers. This project will draw on the considerable expertise of the university in the areas of multilingualism, in particular with respect to developmental and pathological populations.

Key Persons

Prof. **Douglas Saddy** is Director of the Centre for Integrative Neuroscience and Neurodynamics, Head of the Department of Clinical Language Sciences and Professor for Language Sciences in the School of Psychology and Clinical Language Sciences at the University of Reading. He received his Ph.D. from the Massachusetts Institute of Technology where he studied Linguistics and Psychology and held a fellowship at the Massachusetts General Hospital in Neurodegenerative Disorders. Prior to coming to the UK, Prof. Saddy was Professor for Neurolinguistics and Co-Director of the Centre for Complex Systems' Dynamics at the University of Potsdam in Germany. WP4, 5.

Prof. **Theo Marinis** is Professor of Multilingualism and Language Development at the School of Psychology and Clinical Language Sciences, University of Reading. His research focuses on language acquisition and processing across populations of typically and atypically developing learners and aims to uncover the nature of language processing in typical and atypical language development. Two large research grants funded by the ESRC (Real-time processing of syntactic information in children with English as a Second Language & children with Specific Language Impairment) and NWO (Cross-linguistic study of the production and

processing of grammatical morphemes in L2 children compared to children with Specific Language Impairment) have focused on the language acquisition and processing in sequential bilingual children and children with Specific Language Impairment. Theo Marinis is part of the steering committee of the COST Action IS0804 'Language Impairment in a Multilingual Society' that includes 33 countries within Europe and beyond. WP4, 5.

Ianthi Maria Tsimpli is Professor of Multilingualism and Cognition at the School of Psychology and Clinical Language Sciences at the University of Reading and Professor of Psycholinguistics and Director of the Language Development Lab at the Dept. of Theoretical and Applied Linguistics at Aristotle University of Thessaloniki. The Language Development Lab she directs conducts research on first and second language development, bilingualism, SLI, Broca's aphasia, native adult, child and L2 sentence processing and eye-movements. A large part of this research is externally funded by research projects. Two of the most recent projects are co-financed by the European Union (European Social Fund – ESF) and Greek national funds through the Operational Program "Education and Lifelong Learning" of the National Strategic Reference Framework (NSRF) - Research Funding Programs: THALIS and ARISTEIA. WP4, 5.

Main Tasks:

Reading is responsible for the coordination of Work Package 4 and will contribute to Work Package 5. The key persons will supervise the to-be-hired PhD students as a team. In particular the team will study linguistic and neuro-cognitive features associated with communication disorders in multilingual children and adolescents, as well as social factors linked to multilingualism in aging populations.

NN: Three PhD students (full time, each three years). Students will be conducting behavioural and neuroimaging studies. Students will have a background in linguistics and/or psychology, and will have general experience in empirical design and analyses. In the course of their training, in addition to expertise in issues involving multilingualism, they will gain experience in behavioural and neuroimaging techniques, signal analysis and computational modelling.

UR will also contribute to WP6 by participating in dissemination events.

Beneficiary 5: Department of Linguistics and English Language, School of Philosophy, Psychology and Language Sciences (PPLS), University of Edinburgh (UEDIN) – United Kingdom

The University of Edinburgh is one of the largest and most successful universities in the UK with an international reputation as a centre of academic excellence. The University is the leading research university in Scotland, ranking 6th in Europe and 17th worldwide. On a European level, traditionally the University has been very successful in participating in European Framework Programmes, currently in the Seventh Framework Programme the university participates in some 267 projects with an award value of €140M.

The Department of Linguistics and English Language (LEL) is one of the largest centres for research in Linguistics in Europe. Within the department the Developmental Linguistics Research Group (of which all the key personnel are members) aims to undertake theoretical and experimental research on linguistic development. Their research investigates the different stages in language acquisition and loss in both first and second language, as well as bilingualism. Outcomes of their research on bilingualism are disseminated through the information service Bilingualism Matters.

Key persons

Antonella Sorace is Professor of Developmental Linguistics in the department of LEL and the founder of the information and consultancy service *Bilingualism Matters*. She is a world leading authority in the field of bilingual language development, where she is particularly well known for her studies of exceptionally talented ("near-native") adult second language speakers; for her research on the changes ("attrition") that take place in the native language of advanced second language speakers; for her investigation of bilingual language acquisition in early and late childhood, and of the effects of bilingualism in non-linguistic domains. Professor Sorace is currently the Principal Investigator on an ESRC grant entitled 'First language attrition meets second language learning: interaction of linguistic and executive control factors in late bilinguals' (2011-2014) and is also involved in two European grants as a project partner; 'School And Family Together for immigrant children integration' (SAFT), 2012-2015, and 'Let's become a BILINGual FAMily' (BILFAM), 2010-2012. WP2, 5, 6.

Caroline Heycock is Professor of Syntax in the department of LEL. Her work is in the area of theoretical syntax, with particular reference to English and the other Germanic languages, and to Japanese. Recent and current research topics include reconstruction phenomena, equatives and other copular constructions, particularly pseudoclefts, the syntax and semantics of (especially) nominal conjunction, and syntactic attrition in the native language of advanced learners of a second language. Prof. Heycock was Co-I on an AHRC grant held with Prof. Sorace entitled 'Verb movement in contemporary Faroese', which ran from 2006-2010. WP2.

Professor Martin Pickering's research is mainly in Psychology of language and communication, including language production, language comprehension, dialogue, and bilingualism, with a focus on syntax and semantics. Prof. Pickering was recently the Principal Investigator on an ESRC grant entitled 'Mechanisms of learning, alignment and routinization in dialogue' which ran from 2005-2010. WP2, 5.

Professor Holly Branigan's research interests are in language production (especially syntactic processing) in both monolinguals and bilinguals; specifically: how do people represent the grammar of their first language or a second language, and how do they choose between alternative syntactic structures. Prof. Branigan was recently the Principal Investigator on an ESRC grant entitled 'Reading fluency in normally developed and dyslexic reading: How important is parafoveal versus foveal processing?' which ran from 2009-2010. WP5.

Main tasks:

Edinburgh researchers will participate in WP2, WP5, and WP6. In WP2, Edinburgh (in collaboration with UPF) will be responsible for comparing the linguistic and cognitive aspects of bilingualism involving three minority languages: Gaelic, Sardinian, and Catalan, focusing in particular on the effects on the main community languages (English, Italian, and Spanish). In WP5, Edinburgh researchers will contribute their international expertise to the study of (a) alignment and priming in dialogue involving L2 speakers, and (b) ultimate attainment in adult L2 acquisition. Edinburgh will also have main responsibility, with the assistance of the Taalstudio, for dissemination of the project results (WP6) through the existing structure of the information service *Bilingualism Matters*, founded and directed by Professor Sorace. UEDIN will also function as the UK national AThEME branch for dissemination activities for the project.

NN: 2 PhD-students (full time, 3 years) to be recruited for WP2; 1 (full time, 3 years) for WP5. All the PhD students will have a background in linguistics or psychology; they will receive further appropriate training in Year 1. The students recruited for WP2 will also have native or near-native knowledge of English and Italian, respectively.

NN: a part-time administrative assistant (3.4 months in total) for WP6, who will be responsible for day-to-day tasks involved in running the AThEME UK branch of Bilingualism Matters, including liaising with stakeholders, organizing seminars, updating the website, and dealing with the media. This assistant will also cooperate with the Taalstudio in the coordination of AThEME dissemination activities.

Beneficiary 6: University of Konstanz – Germany

Top-level research, excellence in teaching, internationality and interdisciplinary collaboration have stood for the University of Konstanz since its foundation as a *Reform-Universität* in 1966. Konstanz is one of the eleven German universities whose institutional strategies are being funded by federal and state government to expand university top-level research. Unlike at most other German universities, there are no philologically defined departments which combine linguistics with literature and cultural studies. Konstanz has a Department of Linguistics with strengths in many areas of theoretical, historical, and applied linguistics. Furthermore, there is a strong interest in the role of linguistics as part of cognitive science, as reflected in the computational, psycholinguistic, neurolinguistic and variationist orientation of several faculty members. This conception puts research and teaching of individual languages or language families in the larger context of formal and empirical approaches to the study of language. Moreover, the department is actively involved in interdisciplinary research programmes together with the departments of computer sciences, philosophy, political sciences and sociology.

Key persons

Josef Bayer, Professor of general and Germanic linguistics and head of the psycholinguistics laboratory of the University of Konstanz, is a theoretical linguist with a focus on syntactic theory, comparative syntax and syntactic processing. The Konstanz psycholinguistics laboratory specializes on written language comprehension. The conventional behavioural methodologies used are mainly self-paced reading and speeded grammaticality judgments. More recently, eye-tracking has been added. Bayer has a background in aphasiology and dyslexia research as well as practical experience in clinical linguistics which is documented in publications. For WP 4, he will explore the role of multilingualism and literacy in language processing.

Claudia Diehl, Professor of Microsociology and project leader of “Causes and consequences of early socio-cultural integration processes among new immigrants in Europe”, which investigates the relationship between migrants’ socio-cultural adaptation (e.g. language skills, religiosity) and their structural integration (e.g. in the labour market) - and group specific differences herein. By focusing on recent arrivals, the project studies a particularly dynamic phase of the integration process. It aims to produce more nuanced knowledge of socio-cultural integration processes in contemporary European societies. Professor Diehl’s expertise on sociological aspects of migration and ethnicity will be an essential contribution to WP 3.

Janet Grijzenhout, Professor of linguistics and managing director of the Konstanz Linguistics Laboratories founded the first Baby Speech Laboratory (BSL) in southern Germany with a focus on experimental studies on infant speech perception and monolingual and multilingual children’s early word and sentence production. She is an active member of the “Kompetenznetzwerk Frühe Kindheit“ which brings together scientist from Germany and Switzerland who are interested in sociological, political and legal issues concerning early childhood. Within the network, Grijzenhout was recruited as an expert on linguistic aspects with a special interest in multilingualism and regional languages. She will contribute to WP 3.

NN: One PhD student (65% fte, four years) to be hired in WP3; proficient in both German and a heritage language in Germany with sufficient background in sociological methodology and linguistics as well as the linguistic knowledge of the heritage language.

NN: One PhD student (65% fte, three years) to be hired in WP4; thorough background in theoretical linguistics and proficient in psycholinguistics.

Main tasks:

The key persons and the to-be-hired doctoral students will participate in WP3 "Heritage languages and language users in the EU" and in WP4.

In WP3, the emphasis is on the evaluation of the known *sociological and linguistic variables* conditioning the rate of acquisition and level of attainment of the heritage language, the role of Age of Onset of Acquisition (AOA), the amount and quality of the language input, and the relationship between language, identity and ethnicity.

In WP 4, the emphasis is on the role of multilingualism and literacy in human language processing.

UKON will coordinate the AThEME dissemination activities in Germany via the branch of BM which will be established before the end of 2013.

Beneficiary 7: Meertens Institute, Research and Documentation of Dutch language and Culture, Royal Netherlands Academy of Arts and Sciences (KNAW) – The Netherlands

The Meertens Institute, established in 1926, has been a research institute of the Royal Netherlands Academy of Arts and Sciences (Koninklijke Nederlandse Akademie van Wetenschappen, KNAW) since 1952. In the institute, the diversity in language and culture in the Netherlands is studied. Our focus is on contemporary research in the construction of social and regional identities in the Dutch society through language and culture. Apart from research, the Institute also concerns itself with documentation and providing information to third parties in the field of Dutch language and culture.

The main disciplines are: (i) structural, dialectological and sociolinguistic study of language variation within Dutch in the Netherlands, with the emphasis on grammatical variation. The main goal of this research is to gain insight into the nature of linguistic variation, the linguistic factors playing a part in this, and the language-external factors (like age, gender, ethnicity, etc.) that cause or influence variation in the Netherlands. The research focuses on insight into the present-day situation. Diachronic research into language change plays a part in this, as well as sociolinguistic and formal linguistic research. The interaction between these three approaches is of essential importance too. The research group concentrates on variation in grammar (sounds, word formation and sentence structure). (ii) ethnological study of the function, meaning and coherence of cultural expressions The ethnology research focuses on the daily behaviour of people in the Netherlands and on the image that is created as a result of this behaviour. The aim of the research is to gain insight into everyday life and the cultural phenomena connected with this. This does not only concern traditions, but also emerging and disappearing rituals. These traditions and rituals are familiar and obvious at first sight, but nevertheless they have a large impact on the society we live in. The study of old and new cultural phenomena in the Netherlands contributes to a better insight into the dynamics of the multicultural society. The Institute has a lecture hall, a large library, with numerous collections, audio-facilities and a substantive documentation system, of which databases are a substantive part.

Key Persons

Sjef Barbiers is a senior researcher of variation linguistics at the Meertens Institute, as well as a professor of Linguistics at the Utrecht University, where he is responsible for the online research infrastructures DynaSAND, MIMORE and Edisyn (on-line (morpho-)syntactic dialect databases with search engine and cartographic tool). He is also leader of the ESF-project ‘European Dialect Syntax’ (EURYI-Award). At the Meertens Institute, he is the project manager of the ‘Syntactic Atlas of Dutch Dialects’. The topic of his research is syntactic variation in Dutch and its dialects from a geolinguistic, comparative and theoretical perspective. WP2.

Leonie Cornips is a senior researcher of variationist sociolinguistics, and syntactic (micro)variation. She is the coordinator of the CLARIN-project Cognition, Acquisition and Variation Tool (COAVA), which targets interdisciplinary research into the relation between language acquisition and language variation (2011), and the principle applicant of the EARLY CHILD BILINGUALISM-project (an NWO international program: ‘Language Acquisition and Multilingualism’). Recently, her research interests include the construction of local identities through language (with Dr Stengs). Longer research interests constitute ‘old’ and ‘new’ non-standard varieties of Dutch, methodology and syntactic elicitation of dialect and non-standard varieties and child bilingual and dialectal acquisition. WP4.

Marc Van Oostendorp is a senior researcher of phonological variation at the Meertens Institute, as well as holder of a Professor Extraordinary in Phonological microvariation at the University of Leiden. His research interests include language variation and change, language contact and phonology. He is involved in several activities that presents language and linguistics to a wider public. WP2.

Irene Stengs is a senior researcher of cultural anthropology at the Meertens Institute. Her research interests include ethnography, popular culture, media and language practices. Recently, her research interests include the construction of local identities through culture (with prof. Cornips). WP4.

NN: One junior researcher (full time, two years) to be recruited. WP4. The junior researcher in WP4 is a graduated student, preferably proficient in Dutch and a Limburg dialect with sufficient background in sociolinguistics and/or anthropology. The researcher should be familiar with sociolinguistic fieldwork and/or doing ethnography.

Main tasks:

Barbiers and Van Oostendorp will participate in the WP2. In particular, they will examine microvariation and regional languages. Cornips and Stengs will supervise the junior researcher to be recruited and the research about the wellbeing and social integration of bilinguals/bidialectals in health treatment and healthcare providers in Limburg as a peripheral area in The Netherlands, WP4.

KNAW will also contribute to WP6 by participating in dissemination events.

Beneficiary 8: University of Nova Gorica (UNG) – Slovenia

The University of Nova Gorica is a young (est. 1995, university accreditation in 2005) and rapidly developing private research-oriented university in Slovenia with a competitive advantage in the European and international context. It comprises seven schools and nine research centers. The University is a member of European University Association (including EUA- Council for Doctoral Education). Despite its still relatively small size (124 regular and 49 non-regular employees including 101 Ph.D. holders, in 2011), the University of Nova

Gorica hosts numerous nationally and European funded research projects including a €4000000 FP7-REGPOT grant awarded in 2011, collaborates with over 40 European and international universities and research centers, and participates in the academic and research exchange programs (ERASMUS, COST).

The main UNG campus is located at the border between Slovenia and Italy, with direct access to bi- and multilingual communities speaking Slovenian, Italian, as well as Friulian, a recognized minority language. UNG is also a participating institution in the EC Erasmus Mundus joint study program 'European Master in Migration and Intercultural Relations'. At the UNG Research Center for Humanities, research is conducted within a wide range of areas relevant to multilingualism including formal linguistics, comparative Slavic linguistics and psycholinguistics.

Key Persons

Arthur Stepanov, Associate Professor of Linguistics (Ph.D. University of Connecticut, USA, 2001). Prof. Stepanov's research interests include formal syntactic theory and psycholinguistics. His syntactic work concerns architecture of syntactic knowledge and comparative analysis of Slavic and Germanic syntax in the framework of Universal Grammar. Prof. Stepanov's psycholinguistic research targets memory usage in processing recursive aspects of linguistic input. He is also concerned with memory usage aspects of cognitive facilitation in multilingual children. WP2, 5.

Penka Stateva, Associate Professor of Linguistics (Ph.D. University of Connecticut, USA, 2002). Prof. Stateva works in the field of formal semantics, pragmatics, and the syntax-semantics interface. Her current research interests are related to theoretical and psycholinguistic aspects of number, quantification, and agreement. She has worked on topics like vagueness and approximation, comparison, semantics of clause types, presupposition and implicatures, and is also concerned with pragmatic aspects of multilingual knowledge in the cognitive setting. WP2, 5.

Franc Marušič, Associate Professor of Linguistics (Ph.D. State University of New York, USA, 2005). Prof. Marušič works mostly on syntax of Slovenian and related Slavic languages. His main interests are in syntax including comparative syntax and (contact induced) syntactic variation. His other line of work is related to the bilingual situation in the wider border region of Nova Gorica where he participates in theoretically informed language consulting targeted specifically at language use in multilingual settings (<http://www.jesv.eu/>, 2011-12). Prof. Marušič has recently participated in two multilingualism-related studies (a study of the status of Slovenian, English and other languages in Slovenia's higher education and science, 2010, and a study of the practice of and attitudes to non-Slovenian business naming in Slovenia, 2009). WP2, 5.

Rok Žaucer, Assistant Professor of Linguistics and Director of the Research Center for Humanities (Ph.D. University of Ottawa, Canada, 2009). Prof. Žaucer works on formal morphosyntax of Slavic languages. He also participates in theoretically informed language consulting targeted specifically at language use in multilingual settings (<http://www.jesv.eu/>, 2011-12). Additionally, prof. Žaucer has been contracted by the Slovenian Ministry of Culture for two multilingualism-related studies (one on the status of Slovenian, English and other languages in Slovenia's higher education and science, 2010, and one on the practice of and attitudes to non-Slovenian business naming in Slovenia, 2009). WP2, 5.

NN: a student/admin assistant (0.2 fte for four years) for dissemination activities in WP6.

Main tasks:

UNG will participate in WP5, WP2 and WP6. The key persons will participate in WP5 and WP2. In WP5, UNG will perform experimental investigations of (early) bilingual language groups aimed at evaluating the bilingual cognitive advantage against the factor of “language distance” (controlled for using modern typological methods), that is, determining whether speakers of two unrelated languages fare better than speakers of two closely related languages. For those tasks, three bilingual groups in Slovenia will be targeted: Italian-Slovenian bilinguals (two Indo-European languages), Hungarian-Slovenian bilinguals (A Finno-Ugric and an Indo-European language) and Serbo/Croatian-Slovenian bilinguals (two closely related Slavic languages). UNG will also perform a series of comparative studies on early bilinguals regarding the stages and manner of monolingual vs. bilingual acquisition of presuppositions and scalar implicatures. Here UNG plans to compare results of three age groups of monolingual Slovenian elementary school children, to similar groups of Slovenian-Italian bilingual children. In WP2, UNG will conduct behavioral experiments to analyze whether specific (morpho)syntactic features of local varieties of Slovenian induce differences in the processing of syntactic structures of the standard Slovenian.

UNG will coordinate the AThEME dissemination activities in Slovenia via the new Slovenian national AThEME branch of *Bilingualism Matters*.

Beneficiary 9: Basque Center on Cognition Brain and Language (BCBL) – Spain

The **BCBL** (located in San Sebastian, Basque Country, Spain) is a world-class interdisciplinary research centre for the study of cognition, brain and language jointly founded by Innobasque, Ikerbasque, UPV-EHU (The University of the Basque Country) and the Government of Gipuzkoa. The BCBL has exceptional facilities that support cutting-edge research on language and cognition in adults and children, using both behavioral and cognitive neuroscience approaches. The state of the art equipment allows precise measurement of response times to visual and auditory stimuli, as well as measurement of eye movements. A full complement of neuroscience methodologies is available, including EEG/ERP, MEG, and fMRI. The BCBL also offers an exceptional environment for investigating bilingual language development with a babyLAB and a JuniorLAB, and given its highly bilingual location. The complete behavioural set-up of the babyLAB is supplemented with electrocardiogram, EEG/ERP and NIRS systems suitable for investigating infant’s general language skills from 3 to 28 months of age. Recently, the BCBL has extended its facilities with a pioneer initiative in Europe, the JuniorLAB in Vitoria. This laboratory is implemented in a school where language skills of thousands of children are investigated using behavioural and EEG/ERP techniques. Since its opening 3 years ago, the BCBL has followed several lines of research mainly on language processing (language acquisition, comprehension and production), multilingualism (neurocognition and processing, educational neuroscience and lifelong learning, cognitive consequences of multilingualism) and language disorders.

Key Persons

Dr. Carreiras’s research is framed within the interdisciplinary approach of Cognitive Neuroscience. His research has provided in-depth understanding of the cognitive processes and representations involved in visual word recognition and sentence processing in monolinguals and bilinguals. He also investigates how these cognitive operations are instantiated in atypical development – mainly dyslexic patients – and how these substrates are modified during new language acquisition. He is the author of 141 original scientific articles and the co-author of 4 books, resulting in an H index of 23. He is editor-in-chief of *Frontiers in Language Sciences* and associated editor of *Language and Cognitive Processes*. He is the

PI of the COEDUCA, a CONSOLIDER INGENIO 2010 grant awarded by the Spanish Ministry of Science and Innovation and the PI of an ERC Advanced grant awarded by the European Council. He also obtained a generous grant from the Basque Government to found the BCBL. WP4, 5.

Dr. Jon Andoni Duñabeitia is currently a staff scientist at the BCBL. His research activity is mainly focused on visual word recognition in multilinguals and monolinguals (43 articles in international journals, 20 of them as the first author). Dr. Duñabeitia developed several projects focusing on normally developing word recognition in expert adult readers, but also on acquisition and progressive deterioration in children, elderly and Alzheimer's disease patients. Dr. Duñabeitia has also been involved in a large-scale investigation of bilingual ortho-phonological and lexical processes (more than 2000 Basque-Spanish speaking children aged 7-to-14) within the general framework of the COEDUCA Consolider-Ingenio 2010 project. WP4, 5.

Dr. Nicola Molinaro is currently a staff scientist at the BCBL. His main research interest is on sentence processing (17 articles in international journals, 9 of them as the first author). He has studied various topics such as syntax-semantics interface, agreement processing, basic semantic composition and comprehension of fixed expressions, anaphora and idioms. Dr. Molinaro has a well-grounded experience on EEG studies and is currently working on the MEG correlates of reading, focusing on different types of source reconstruction (both localized and distributed approaches). He also recently started an extensive line of research on new language learning (neurophysiological changes due to differential teaching techniques) and the role played by collocational regularities. WP4, 5.

Dr. Clara Martin is currently a staff scientist at the BCBL. Her main area of research is language processing in bilingualism (19 articles in international journals, 9 of them as the first author). She has made several contributions to the field of word recognition, language production and sentence comprehension, mainly focusing on differential processes in a first and a second language. She was also involved in several research projects on linguistic processing in dyslexia and Alzheimer disease. It is worth mentioning that Dr. Martin is currently investigating multilingual reading acquisition in Basque-Spanish and Basque-French early bilingual children within the large-scaled BILITERACY ERC project. WP4, 5.

NN: 2 Postdoctoral Researchers (full time, 3 years) will be hired to work on WP4 and WP5. Both of them will be experts in neuroimaging techniques (fMRI or EEG or MEG) and preferable with psycholinguistics background.

NN: 1 administrative assistant (0.2 fte for four years) to be recruited following the standard recruitment policy of the BCBL. This person will be the administrative assistant in the Spanish AThEME national branch of *Bilingualism Matters* and will help with dissemination activities.

Main tasks:

The key personnel as well as the 2 Postdoctoral Researchers to be hired will participate in WP4 and WP5:

WP4 addresses the complex issues associated with multilingualism in acquired communicative disorders. BCBL will actively contribute as 2 of the Center's main Research Lines are (1) Multilingualism (Neurocognition and processing; Educational neuroscience and lifelong learning; Cognitive consequences of multilingualism) and (2) Neurodegeneration, language and learning disorders (Language and learning disorders; Neurodegeneration of

language and cognition). In particular, BCBL will concentrate our efforts on the impact of bilingualism on the language learning performance of dyslexic children.

WP5 will investigate several factors that contribute to what it means to “Being Bilingual” and BCBL will focus on the bilingual population in the Basque Country. In particular BCBL will investigate (1) language attrition, that is, the impact of a second reading system on the first reading system, (2) the putative advantages of bilinguals on the cognitive system and (3) the potential benefits of multilingualism on the decline of the cognitive system during aging.

BCBL will coordinate the AThEME dissemination activities in Spain via the new Spanish national AThEME branch of *Bilingualism Matters*.

Beneficiary 10: Universitat Pompeu Fabra (UPF) – Spain

Universitat Pompeu Fabra (UPF, <http://www.upf.edu>) was established as a public university in 1990. UPF is a high competitive European center in research. UPF consistently ranks among the top five Spanish universities in terms of both scientific productivity and academic efficiency. Two research groups of the UPF contribute to this project, both groups are integrated in the Department of Information and Communication Technologies (DTIC) and both are member of the Center for Brain and Cognition (CBC): **Speech Production and Bilingualism (SPB) group led by Dr. Albert Costa**. This group is expert in the cognitive and brain basis of the process of speech production with special emphasis on bilingual speech production. **Speech Acquisition and Perception (SAP) group led by Prof. Núria Sebastián-Gallés**. Research at the SAP Laboratory is aimed at understanding how human beings learn and use languages. SAP group uses different experimental approaches to study the ways in which infants, children and adults represent and process speech sounds and how words are learned and recognized.

The research group at UPF is involved in several work packages in this project, according to the expertise of its members, the technical resources available in our Neuroscience Laboratory, and the nature of the multilingual population of Catalonia. In particular, UPF will be involved in WP 2, 4 and 5. UPF will conduct research with healthy adults and elderly people using techniques from experimental psychology and neuroscience.

Recent work by these research groups includes the articles ‘A bilingual advantage in Visual language discrimination in Infancy’ (Psychological Science, 2012), ‘On the parallel deterioration of bilinguals’ two languages: Evidence from Alzheimer’s disease’ (Neuropsychologia, 2012) and ‘Tracking lexical access in speech production: electrophysiological correlates of word frequency and cognate effects’ (Cerebral Cortex, 2010)

Key persons

Dr. Albert Costa is a leading figure in the field of speech production and executive control. Dr. Costa is ICREA Research Professor at Universitat Pompeu Fabra (Barcelona) where he is head of the Speech Production and Bilingualism Group in the Center for Brain and Cognition. In 1997 he received his PhD degree in Psychology. From 1998 to 2005, Costa developed his post-doctoral career in European and American Universities: MIT, Harvard University (Fulbright scholarship), SISSA (Trieste, Italy) and at the University of Barcelona (Ramon y Cajal scholarship). In 2006 Dr. Costa became an Associate Professor in the Department of Psychology of the same university. Since 2008, Dr Costa is ICREA Research Professor at Universitat Pompeu Fabra. He has published more than 70 papers in International Journals with h-index of 21. WP2, WP4 and WP5.

Prof. Núria Sebastián-Gallés is recognized as a leading researcher in bilingualism and one of the founders of the experimental study of infant bilingualism. Dr. Sebastián-Gallés is Full Professor (Catedrática) at Universitat Pompeu Fabra (Barcelona) where she is head of the Speech Acquisition and Perception Group in the Center for Brain and Cognition. She is member of the Scientific Council of the European Research Council (ERC). Recently, Prof. Sebastián-Gallés won the advanced ERC grant ‘UnderControl’ for studying the mechanisms of cognitive control and language learning. Prof. Sebastián has published more than 80 papers in International Journals (including Science, PNAS, Cognition, Journal of Cognitive Neuroscience among others). WP2 and WP5.

NN: Two senior post-doctoral researchers (full time, two years) to be hired each for two years. The post-doctoral researchers will have expertise in bilingualism, speech acquisition and perception, neurodegenerative disease, language and memory. Postdoc 1 should be familiarized with EEG recordings and EEG analysis. Ideally, the post-doc should have a good record of publications in the field of psycholinguistics. WP2, WP4, WP5.

Main tasks:

UPF will be in charge of the experiments regarding foreign accented speech and communicative alignment between native and non-native speakers (WP 5). Further, UPF will also be in charge of the experiments regarding foreign advantages of multilingualism on the cognitive system (WP5 and WP2) and will be involved in the analysis of the Multilingualism and communicative impairments (WP4).

UPF will also host one of the consortium meetings.

UPF will also participate in WP6 by participating in dissemination events.

Beneficiary 11: CNRS (National Center for Scientific Research) – France

CNRS is a public research organism, under the responsibility of the French Ministry for Higher Education and Research. It gathers 11 415 researchers in 1100 laboratories spread out all over the national territory. Two CNRS laboratories will take part in the present project.

PARTNER 11a: IKER-CNRS - Research Centre for Basque Language and Texts (France)

IKER is a combined research unit (*Unité Mixte de Recherche – UMR*) administered by the CNRS, the University of Michel de Montaigne-Bordeaux 3, and the University and Pau et des Pays de l’Adour University (UPPA). Based in Bayonne, it is the only organisation in France specialised in Basque Studies. It now plays a key role in this field of research amongst other organisations in Europe, most notably Spain, and in the United States. IKER has particularly strong roots in linguistic research, which reflects the long-established unique position of the Basque language within the context of European linguistic history, and which represents its primary research focus. Linguistic research at IKER centres on morphosyntax, semantics, dialectology, history of the language and linguistic thought, and sociolinguistics. Although the Basque language is the primary focus of our work, research at IKER follows a typological or comparative approach within the study of grammar.

Key Persons

Ricardo Etxepare. Director of IKER. Senior researcher. He is an expert on Basque linguistics. He works on comparative syntax, morphosyntax, syntax-semantics interface. Ricardo Etxepare coordinated the ANR project ‘Towards a Syntactic Atlas of the Basque Language’ where a systematic study of Basque dialect and sociolinguistic variation has been developed focusing on the north-eastern varieties spoken in France. He has participated in the

ESF funded project 'Edisyn'. (Etxepare, Ricardo (to appear) « Contact and change in a restrictive theory of parameters » In Carme Picallo and José Maria Brucart (eds) *Linguistic Variation in the Minimalist Framework*. Oxford:Oxford University Press). WP2.

Beñat Oyharçabal. Senior researcher (IKER). He is an expert on Basque language. Beñat Oyharçabal coordinated the ANR project 'Norantz' (<http://www.norantz.org/>), which had as its main aim to set up an observatory of the evolution of language use amongst Basque speakers today in the Pyrénées-Atlantiques region. He also coordinates the ANR project 'ACOBAs: Code switching in French-Basque and Spanish-Basque speakers'. (Oyharçabal, B. & I. Epelde. 2010. "Perpauas barneko hizkuntza lerrateak ekialdeko euskal elebidunetan" (Code-switching in bilingual french-basque speakers). In B. Fernández, P. Albizu & R. Etxepare (arg.), *Euskara eta euskarak: aldakortasun sintaktikoa aztergai, ASJUren Gehigarriak LII*. Bilbao: University of the Basque Country. 55-64). WP2.

Urtzi Etxeberria. Junior researcher (IKER). He is a specialist on Basque linguistics. Syntax, semantics, syntax-semantics, comparative syntax. Urtzi Etxeberria is the coordinator of the ANR project ISQI which study the fundamental properties of nominal quantification systems in five European languages: Basque, English, French, Greek and Spanish. He has recently participated in the ESF funded project 'Edisyn'. (Etxeberria, Urtzi, Ricardo Etxepare and Myriam Uribe-Etxebarria (eds) (2012) *Nouns and Nominalization in Basque. Syntax and Semantics*. Linguistics Today 187. John Benjamins). WP2.

Aritz Irurtzun. Junior researcher (IKER). He is a specialist on Basque linguistics. Syntax, syntax-semantics and syntax-phonology interface. (Duguine, Maia & Aritz Irurtzun, to appear, "From obligatory Wh-movement to optional Wh in situ in Labourdin Basque" *Journal of Historical Syntax*). WP2.

Other researchers involved: **Mélanie Joutteau**, Junior researcher (IKER). WP2. **Milan Rezac**. Junior research (IKER). WP2. **Alain Viaut**. Permanent researcher (DR) (IKER). WP2.

NN: a postdoctoral researcher (full time, two years) to be recruited. This researcher has linguistics as well as sociolinguistics background and expertise on Basque/Spanish, Basque/French bilingualism and language contact in general. WP2.

Main tasks:

IKER-CNRS will investigate the possible effects of multilingualism on grammar changes in a situation of contact between regional and standard languages. Externally induced variation and change that will be studied include two language pairs and contact situations: Basque (dialects)-Spanish/French. The postdoc, together with researchers from the IKER group, will investigate the spreading of Basque among young speakers of different learning backgrounds. Due to the success of the Basque immersion school system, a new typology of speakers has emerged, whose L1 is not necessarily Basque, but French or Spanish, and whose linguistic competence in Basque is first acquired in the school at an early age. Early bilingualism has recently brought up a new source of divergence between spoken Basque and the standard based on traditional linguistic choices, materialized in linguistic changes which may seem to affect central areas of Basque grammar such as word order, case and inflection. The extent of this phenomenon, as well as its sociolinguistic characterization in terms of context, age of exposure and other sociological variables will be investigated. From a comparative perspective, the situation of the Basque language will be compared with that of minority languages/dialects in other countries.

IKER-CNRS will also contribute to WP6 by participating in dissemination events.

PARTNER 11b: L2C2-CNRS – Laboratoire sur le Langage, le Cerveau et la Cognition (L2C2), CNRS UMR5304, Lyon – France

The Laboratory on Language, the Brain and Cognition (L2C2) will participate in Work package 5, concentrating mainly on the pragmatic aspects of language use in different situations of multilingualism. The common denominator of work done in the laboratory is an interest in higher cognitive processes (e.g. reasoning and language). On the linguistic front, laboratory members work on syntax and semantics, including L2 learning, and on pragmatics, combining theoretical work and sophisticated experimental paradigms to test conflicting hypotheses. This work has included both developmental aspects (scalar implicatures in different age groups), atypical populations (autistic children) and adult investigations. Though the work undertaken in this field until now targeted monolingual populations, the possibility of variations in pragmatic abilities in multilingual populations having learnt their second language either in infancy or at different later ages in life is of great interest. The laboratory's previous experience in experimental pragmatics will greatly help in devising new experimental paradigms for testing diverse multilingual populations on these aspects of pragmatic use of language. (<http://l2c2.isc.cnrs.fr/en/>)

Key persons

Anne Reboul is a philosopher and a linguist, interested in philosophy of language and pragmatics. Her recent research has targeted scalar implicatures and their linguistic substrate through empirical investigations. (Noveck, I. & Reboul, A. (2008), “Experimental pragmatics: a Gricean turn in the study of language”, *Trends in Cognitive Sciences* 12/11, 425-431). WP5.

Jean-Baptiste van der Henst is an experimental psychologist with a solid expertise in empirical research in the domains of language and reasoning. (Mercier, H., Yama, H., Kawasaki, Y., Adachi, K., & Van der Henst, J-B. (in press) “Is the use of averaging in advice taking modulated by culture?”, *Journal of Cognition and Culture*). WP5.

Both Anne Reboul and Jean-Baptiste van der Henst are employed by CNRS.

NN: A PhD-student (full time, three years) with a training in linguistics and experimental psychology will be recruited to contribute to WP5. Ideally, (s)he should have some experience in designing experiments and recruiting and testing subjects. WP5.

Other researchers involved: **Jacques Jayez**, Professor (L2C2); **Viviane Deprez**, Professor (L2C2); **Tatjana Nazir**, Senior Researcher (L2C2).

Main tasks: L2C2-CNRS will participate in WP5 and will mainly investigate empirically pragmatic performance (scalar implicatures and presupposition) in both early and late bilinguals, at different levels of proficiency in the second group, as compared with monolinguals, in both their native tongue and their L2. The key persons as well as the PhD-student to be recruited will design the experiments, recruit the participants, and analyze the results.

L2C2-CNRS will also contribute to WP6 by participating in dissemination events.

Beneficiary 12: Elebilab-Psycholinguistics Laboratory—The Bilingual Mind—University of the Basque Country (UPV/EHU) – Spain

The University of the Basque Country is a publicly run educational institution that seeks to promote knowledge and research, consistently in pursuit of excellence. 45,000 students and a 5,000-membered academic staff form our dynamic and bilingual community. UPV/EHU is

not only one of the leading universities in Spain according to internationally published rankings (www.webometrics.info), but also one of the leading universities in the European area for the quality of its teaching, its commitment to continuous training and the excellence of its research, development and innovation. It holds agreements with more than 400 international universities. Since the first Research Framework Programmes, the UPV/EHU has been very active and has participated in over 40 projects from the Sixth Framework Programme (FP6), leading 2 of them, mainly in the Activity Area 3 (NMP) and Activity Area 2(ICT). While teaching in Spanish is guaranteed in all programmes, no less than 35% of our students choose to study in Basque. The Department of Basque Studies and Linguistics offers an ideal environment for the proposed research, given its human resources and the groups that actively conduct studies on linguistics, bilingualism and multilingualism. Our research group, The Bilingual Mind (www.ehu.es/HEB/) investigates how language is represented/processed in bilinguals and multilinguals. UPF/EHU examine bilingual and multilingual populations of different ages and proficiency levels using experimental techniques (i.e., reaction times, eye-tracking, electrophysiological measures of brain activity). The psycholinguistics laboratory (www.elebilab.com) and the Basque language Institute (www.ei.ehu.es) where the researchers in UPV/EHU work provide the ideal human and technical resources to pursue their research. The Institute for the Basque Language (IBL) was created in 1996 to study the Basque language, its grammar, lexicon, social uses, scientific terminology, etc. The IBL is working on a scientific project aimed at creating an online encyclopaedia of the Basque language: grammar, dictionary, historical information, etc. Some parts of this project are already partially or wholly available online, namely:

- Contemporary Reference Prose (CRP)
- Dictionary of Standard Basque in Contemporary Prose (DSBCP)
- The Lexicon, past and present (LPP)
- Dictionary of Contemporary Basque (DCB)

In addition to these projects, the IBL has conducted workshops (2002, 2005, 2008, 2010,2013) on terminology and has compiled a range of materials for teaching university courses in Basque.

Key Persons

Itziar Laka, Full Professor in Linguistics. Corresponding member of the Royal Academy for the Basque Language. Director of *The Bilingual Mind* research group. She has published a large number of papers on Psycholinguistics, Bilingualism, Basque and Linguistic Theory. Laka's research focuses on the convergence of linguistics and experimental psycholinguistics, applied to bilingualism and language learning; she investigates the neurocognition of bilingualism and language processing, as well as the effects of proficiency and age of acquisition in bilingual and multilingual language processing. WP2, WP5.

Pello Salaburu, Full Professor in Basque Linguistics, member of the Royal Academy for the Basque Language, director of the Basque Language Institute. Member among others of the Advisory Board for Basque at the Basque Government, and the Advisory Board of the Center for Basque Studies at University of Nevada (USA). He has published many works on Education, Bilingualism and Language Policies. WP2.

Beatriz Fernández, Professor in Linguistics. Coordinator of *BasDiSyn* (Basque Dialect Syntax (basdisyn.net)) a collaborative effort with IKER-CNRS in France. Author of several papers and books, her research focuses on language variation, Spanish/Basque contact and Basque microcomparative syntax. WP2.

Kepa Erdocia, Ramón y Cajal researcher. He investigates neural correlates of grammatical processing in Basque/Spanish bilinguals by means of behavioural and electrophysiological techniques. He is director of the Master Program in Linguistics. WP5.

NN: a postdoctoral researcher (full time, 34 months) to be recruited. This researcher has linguistics and psycholinguistics background, and expertise on ERP research on Basque/Spanish bilingualism. WP5.

Main tasks:

UPV/EHU will investigate the impact of age and language distance in bilingualism by comparing Basque/Spanish bilinguals of similar and dissimilar languages at different ages of acquisition and proficiency (WP5). UPV/EHU will measure the linguistic competence attained by bilinguals of different ages of acquisition and proficiency in their L2 and compare them to native speakers to determine psychological and neurocognitive levels of ultimate attainment in L2 (WP5). UPV/EHU will also collect new data for Basque and its dialects (WP2) and will investigate the standardization process and the language policies in the Basque speaking community (WP2).

UPV/EHU will also contribute to WP6 by participating in dissemination events.

Beneficiary 13: Università Degli Studi di Trento (UNITN) - Italy

With 16.000 students, about 600 researchers and 10 departments, the University of Trento is a small but internationally very active research university in Northern Italy, which consistently ranks very high among Italian institutions for higher education. It offers many different programmes at all levels, in Italian and English, including some in one of the very few Cognitive Science departments in the country. The university is part of the EU Erasmus Mundus programme and the Atlantis EU-USA cooperation project between the EU and the USA, and the Italian site of the Italian-German University, an international institute for the promotion of inter-university cooperation between the two countries. The University hosts three important interdepartmental research centers, among which the Centro Interdipartimentale Mente / Cervello (CIMEC), which holds at the moment four ERC Starting grants and one ERC Advanced grant.

Key Persons

Ermenegildo Bidese - Research Assistant Professor of German Linguistics at the Humanities Department (tenured position since April 2009-). Ph.D. in Philosophy, University of Frankfurt/M. (2001), and in Linguistics, University of Verona (2007). His research field are German minority languages in Italy; in particular he has been investigating the diachronic syntax of Cimbrian. He has also studied the evolution of language; in 2012 his research on this topic has been presented at the International Conference on the Evolution of Language (Evolang IX) in Kyoto, Japan. Currently he is spending a Fulbright Research Scholarship at Department of Brain and Cognitive Sciences of Massachusetts Institute of Technology. International Award: 2010 'Johann-Andreas-Schmeller-Preis' for his book 'Die diachronische Syntax des Zimbrischen', Tübingen 2008 (Johann-Andreas-Schmeller-Gesellschaft, Tirschenreuth, Germany). WP2.

Patrizia Cordin is Associate Professor of Linguistics in the Humanities Department. She is Vice-President of the Commissione per la Toponomastica (Provincia di Trento). Since 2008 she is the Delegate of the University of Trento for projects and activities regarding regional languages. Since 2012 she is the Director of Bilinguismo Conta (an Italian branch of Bilingualism Matters of the University of Edinburgh). She collaborates with the editorial

board of *Rivista Italiana di Dialettologia*, *Studi Trentini di Scienze Storiche*, *Quaderni Veneti*. Her research is mainly concerned with lexical and morphosyntactic aspects of Romance languages, particularly of dialects spoken in the area between Lombardia and Veneto. WP2.

Francesco Vespignani - Assistant Professor of Psychology at the Department of Psychology and Cognitive Sciences of the University of Trento. Ph.D. in Cognitive Sciences, University of Padova (2007). His research fields are psychology of language and psychophysiology, with special focus on the study of syntactic and semantic processing during sentence comprehension, using behavioral (self-paced reading, eye-tracking) and electrophysiological (ERPs) techniques. Vespignani is a component of the Modena unit of the 'Language, Gender and Cognition' Initial Training Networks (Marie Curie FP7-PEOPLE-ITN-2008), and a participant in the project 'Homophobia, sexual stereotypes and voice-related linguistic information' (CARITRO Foundation, 2011). He co-organized the 2012 edition of AMLaP. WP2, 4.

Roberto Zamparelli – Assistant Professor of Linguistics at CIMEC (Center for Mind and Brain Sciences) and Department of Psychology and Cognitive Sciences, he has obtained a Ph.D. from the University of Rochester in 1996 and has been a Marie Curie post-doctoral fellow at the University of Edinburgh. He has worked on many theoretical issues at the interface between syntax and semantics, on computational semantics and on alternative models for teaching linguistics. He has been a member of the international network 'Bantu, Chinese, Romance Nouns and Noun Phrases', coordinated by Lisa Cheng, and is currently one of the investigators in the ERC Starting grant COMPOSES, on compositional distributional semantics. WP6.

NN: Two junior postdoc fellows (full time, 2 years each) to carry out the research tasks in WP2 (local minority languages, with focus on both Germanic and Romance varieties and collection of experimental data). Cordin, Bidese and Vespignani will each devote 4 months in total to supervise the junior/postdoc fellows and to organize the experimental part of the research, as well as attending research meetings and Work Package meetings.

NN: One junior postdoc fellow (full time, 26 months) with expertise in syntax and good computational abilities, hired to work in WP6 (Dissemination), carrying out research on alternative models and methods to teach and visualize linguistic structures for different languages, under the supervision of Zamparelli.

Main tasks:

The Trento team will work within three WPs, thus contributing to knit together the research done in different areas of the project. Being in a region rich in linguistic minorities, most of the effort of two of the to-be-hired junior post-docs will be devoted to studying these regional languages, their current status and the extent to which they have been affected by contacts with standard Italian (WP2). In later phases of the project, we plan to carry out behavioural and EEG experiments on these bilingual populations, but the Trento team will also provide their expertise to study subjects with abnormal language development (WP2), in synergy with the nearby university of Verona (UNIVR). The work in WP6, done by a to be-hired postdoc in collaboration with *Bilinguismo Conta* (the Italian office of Bilingualism Matters), will consist in new ways to visualize and experiment with linguistic structures for different languages, creating models that can be presented in schools, science museums and public exhibits to enhance public awareness of linguistics and language diversity.

UNITN will also contribute to WP6 via its existing branch of BM, which will function for the duration of AThEME as the Italian national branch of AThEME by coordinating dissemination activities in Italy.

The project will be carried out in collaboration by the Humanities department (Lettere & Filosofia), the Psychology and Cognitive Science department (DIPSCO) and the Centre for Mind and Brain studies (CIMEC).

Beneficiary 14: University of Verona – Italy

The University of Verona is a vital centre for higher education and research of northern Italy, currently counting 23.000 enrolled students and 1500 employees, and comprising 15 Research Departments, 45 Degree Courses, 41 Medical Speciality Schools and 33 Master Courses. The University of Verona enjoys a good international profile, with 226 Erasmus Agreements and 45 Cooperation Agreements signed with non-EU Universities. Special funding is yearly allocated to host Visiting Scholars and Professors and to promote Staff Mobility towards Universities in Europe and all around the world. Research is conducted in the fields of humanities, economics, medicine, hard sciences and computer science, education and law sciences; the departments promote 33 PhD Courses, organized in 10 PhD Schools, which have awarded 181 PhD degrees in 2012.

The Department of Philology, Literature and Linguistics and the Department of Foreign Languages and Literatures conduct studies within several areas of theoretical and applied linguistics, including comparative syntax and formal semantics/pragmatics, clinical- and psycho-linguistics, sociolinguistics, second language acquisition and second language learning, translation studies, cross-cultural and intercultural pragmatics. In the Department of Neurological, Neuropsychological, Morphological and Motor Science, research is carried out intensively in various areas of neuroscience, exploring at different levels of complexity (molecular, cellular, systemic) functions and dysfunctions of the central and peripheral nervous system, sense organs and muscle effectors.

Key Persons

Denis Delfitto, Full professor of General Linguistics and vice-rector for International Relations of the University of Verona. His main research interests include the study of the interface between morpho-syntax and the systems of interpretation, language development and language change. He is the coordinator of ‘Dyslexia Lab’, a research project aimed at disclosing the linguistic features of developmental dyslexia (i.e. the manifestation of communicative impairment in dyslexic subjects at the phonological, morphosyntactic and interpretive levels) through the identification of its psycho and neuro-linguistic correlates. WP4.

Carlo Alberto Marzi, Full Professor of Psychology. He has been President of the ‘European Brain and Behaviour Society’ (1994-95) and of the ‘International Neuropsychology Symposium’ (2000-05). Currently, he is Section Editor of Experimental Brain Research. His main research interests target hemispheric differences and interactions, neural bases of awareness and visual cognition. WP4.

Alessandra Tomaselli, Full Professor of German Linguistics. Her research interests comprise generative grammar theory, German syntax, second language acquisition and contact induced phenomena in German varieties spoken in Northern Italy. She is particularly interested in capturing the relevance of Universal Grammar in Second Language Acquisition and the

interplay between the Germanic and the Romance influence on the syntactic development of the “Cimbrian” dialect (a German variety spoken in the North-East of Italy). WP2.

Birgit Alber, Associate Professor of German Linguistics. Her research experience is primarily focused on phonological theory and dialectology, where she concentrates on various phonological, morphological and syntactic phenomena in German dialects such as allomorphy in Mòcheno past participles. She is also a member of the linguistic committee of the Mòcheno Cultural Institute (Istituto culturale mòcheno-Kulturinstitut Bersntol, Palù-Palai, TN, Italy), which deals with normative aspects concerning the German minority language Bersntolerisch spoken in Trentino, Italy. WP2.

Stephan Rabanus, Associate Professor of German Linguistics. His main research interests and publications focus on language mapping/linguistic cartography, dialectology, inflectional morphology, conversation analysis and intonation. Between 2000 and 2005 he was lecturer and office manager at the Research Institute ‘Deutscher Sprachatlas’ of the University of Marburg where he actively collaborated in the realization of the digital dialect atlases of Germany (<http://www.diwa.info>) and Luxemburg (<http://www.luxsa.info>). WP2.

Chiara Melloni, Assistant Professor of General Linguistics. Her research interests include morpho-syntax and lexical semantic theory, first language acquisition and cross-linguistic variation, with special focus on word-formation phenomena in Romance, Slavic, Mandarin and Bantu languages. She is a member of the ‘Dyslexia Lab’ research project since 2006. WP4.

Silvia Savazzi, Assistant Professor of Psychology. Her research interests and publications focus on Unilateral Neglect, the representation of space and reference frames, on artificial awareness and loss of awareness with TMS, on visual awareness and visual mental imagery. Further, her studies target inter-hemispheric transfer and integration in healthy subjects and acallosal patients. WP4.

NN: Three post-doc fellows (full time, each 3 years) to be hired in WP2 and WP4: the first (WP2) is proficient in dialectology and has a good background in theoretical linguistics and linguistic field-work, the second (WP4) has a good expertise in psycho- and neurolinguistics, the third (WP4/WP2) has a background both in psycholinguistics and language typology/description.

Main tasks:

The key persons as well as the to-be hired post-doc fellows will participate in WP2 and in WP4. As for WP4, the Verona unit will be responsible for the ideation and the administration (in strict cooperation with the research teams and research centers of other partner universities participating in the same WP) of some psycholinguistic experimental protocols aimed at detecting significant measures of variation in the level of phonological, morphosyntactic and interpretive proficiency exhibited by bilingual/multilingual communicatively impaired (dyslexic) subjects with respect to monolingual dyslexic controls. It will also be responsible for the ideation and the administration (in cooperation with some other partner teams) of a neurolinguistic (ERP) experimental protocol aiming at detecting neural correlates of the different level of linguistic proficiency exhibited by bilingual/multilingual dyslexic children with respect to monolingual dyslexic controls. As for WP2, the Verona unit will be mainly involved in the investigation of the dialectal and regional languages spoken in the area between Innsbruck and Verona, with a specific attention for the Cimbrian and Mòcheno varieties, aiming at detecting measures of phonological and morphosyntactic variation among the relevant language varieties and – crucially – at establishing the effects of (long-term) multilingualism on the relevant grammatical paradigms.

UNIVR will also contribute to WP6 by participating in dissemination activities.

Beneficiary 15: Queen Mary University of London (QMUL) – United Kingdom

Queen Mary, University of London is a member of the Russell Group of research intensive universities in the UK and was ranked 11th in the UK's last Research Assessment Exercise (RAE2008). The Department of Linguistics was ranked first in the UK, with 80% of its work being considered world leading or internationally excellent. Though small in size, the department has brought in over 2 million in external research funding from UK research councils and Charities since RAE2008 and has a thriving doctoral programme. Research in the department is organized into two groupings, Sociolinguistics and Formal Linguistics, and the department's mission is to promote engagement between these two fields, in the belief that such engagement will lead to deeper understanding of the nature and use language and a capacity to use that understanding to improve lives. Our work has impacted on education (especially English language teaching in massively multilingual environments) and on language endangerment (including provision of materials to maintain and revive dying languages).

Key Persons

David Adger, Professor of Linguistics and Head of the School of Languages, Linguistics and Film. Research focuses on the nature of grammatical representation such that it can underlie both categorical and variable linguistic phenomena. Developed a syntactic model (the Combinatorial Variability Model) for variable data found in situations of language change, dialectal and idiolectal variability, heritage language effects and acquisition. Is an expert on the endangered language Scottish Gaelic, and has worked on native American endangered languages. WP3.

Hagit Borer, Professor of Linguistics, and Chair of the Department of Linguistics. Her research focuses on the division of labour between listedness and structure, as it applies to facets of syntactic structure, morphological structure, lexical-semantics and formal semantics. She has studied this interaction in a broad range of languages as well as in developing grammars (first language acquisition). By extension, her research touches on the interaction between the grammatical faculty and other cognitive faculties, and in particular conceptualization and communication. WP5.

Jenny Cheshire, Professor of Linguistics. Her research is on language variation and language change with an emphasis on morphosyntax and discourse-pragmatics. She has led two large-scale projects on the effects of multilingualism on variation and change in multicultural London English and is currently researching a similar situation in Paris French. She is editor of the journal *Language in Society* (from Jan 2014). WP3.

Colleen Cotter, Reader in Linguistics. Her research focuses on news media and public discourse; the relationship of language, culture, and community; and the influence of technologies and social parameters on communicative routines. Her research also includes endangered or revitalizing and heritage languages (Irish); language in use in multicultural London; and the ethnographic, sociocultural, and performative dimensions of discourse and language style. She has contributed to an interim US White House report on federal programs for Asian Americans and Pacific Islanders for which they are underrepresented, focusing on language access and policy. WP2.

Linnaea Stockall, Lecturer in Linguistics. Her research fields include psycholinguistics, neurolinguistics and adult second language acquisition, with an emphasis on the earliest

stages of comprehending linguistic utterances. Director of the Laboratory for Experimental Linguistics (LabEL), and Associate Editor of the journal *Lingua*. WP5.

NN: one PhD student (full time, 3 years) to be recruited to work on the morphosyntax of Multiethnic London English. Student will have proficiency in both variationist multivariate analysis and formal syntactic theories. WP3.

Main Tasks:

In WP2, 1.4 person-months are scheduled for Prof Adger and Dr Stockall to input into the English-Gaelic subpart (cognitive function in bilinguals) which will be run from the Edinburgh beneficiary. Prof Adger will contribute expertise in the morphology and syntax of Gaelic, and Dr Stockall will input to the design of the relevant experiments. In WP3, a PhD student will devote 36 months to task 3.3 (supervision by Professors Adger and Cheshire (2.8 months)). The task here will be to enhance and analyse an extant dataset on Multiethnic London English with a view to providing a multivariate analysis of a range of morphosyntactic factors combined with a formal syntactic analysis of those factors. Dr Cotter will input to the attitudinal aspect of this task, supervising the PhD researcher in integrating an attitudinal survey. In WP 5, Prof Borer and Dr Stockall will run an experimental study of ultimate attainment (4 person months, including part time RA assistance) in London with multilingual speakers of English and Urban Minority Languages.

QMUL will also contribute to WP6 by participating in dissemination activities.

Beneficiary 16: De Taalstudio BV (TS) – The Netherlands

De Taalstudio BV is a Dutch SME with the mission to improve the accessibility of linguistic knowledge for practical purposes. Since its foundation in 2003 De Taalstudio has been run by the founder, the Dutch linguist **dr.** Maaïke Verrips. At present one administrative staff member supports the office and other experts are involved on a project-by-project basis.

One major area of activity of De Taalstudio is the development and delivery of programmes to *support multilingual policies and practices*, especially in *education, health and families*. De Taalstudio organises and offers conferences and workshops for professionals. For parents a workshop programme ‘Languages in Balance’ was developed in 2010 for the Public Health Service of the city of Amsterdam. It is now also used in other towns, and currently being reviewed for its effectivity. De Taalstudio also offers a telephone helpdesk about raising children with more than one language for multilingual parents in the Netherlands and Dutch parents who raise their children abroad.

De Taalstudio initiated a unique and very successful festival about multilingualism for a general public: www.drongofestival.nl. This one day festival presented the positive sides of language learning and multilingualism and showcased linguistic research in the area through lectures and live research labs. Prestigious organisations like the European Commission, de Nederlandse Taalunie, the public library in Amsterdam, the Confucius Institute, the Belgian Integration Centre Foyer, the foundation for the promotion of reading, the Fryske Akademy and the European Mercator Network, supported the initiative. Ten times per year De Taalstudio produces and distributes the ‘Language Quiz’, a quiz for teenagers, based on the news. The quiz highlights language-related news in a format that is easy to use in classrooms. The Language Quiz is distributed every month to 2500 subscribers, who teach Dutch in secondary education. As such it reaches about 80.000 pupils in secondary schools in the Netherlands and Flanders. In brief, De Taalstudio has extensive experience and a network

across Netherlands and Belgium for the dissemination of the results of scientific research into multilingualism.

De Taalstudio also works in a different area: Language Analysis for the Determination of Origin (LADO), a form of applied linguistics that is used by many European immigration authorities to validate the identity claims of asylum seekers. In this area De Taalstudio is widely recognised by linguists and courts alike as a high quality service provider. De Taalstudio is currently contracted in 9 European countries. De Taalstudio's director dr. Maaïke Verrips is also the author of seminal publications on the topic and a member of the advisory board of the international Language and Asylum Research Group. International expert meetings on this topic were addressed and organised by De Taalstudio, one of them supported by the European Science Foundation.

Key Persons

Dr. Maaïke Verrips is founder and managing director of De Taalstudio. She has a PhD in Linguistics from the University of Amsterdam (1996). She is the author of a popular book, and the co-author of a TV documentary series about language development. She is also initiator and organiser of the Drongofestival – a day about multilingualism for all. WP6.

NN: The part-time for 5 years assistant to be hired for WP 6 is an MA student or recent graduate with good language and communicative skills, some experience in science communication and good knowledge about multilingualism research. This person will carry out the day-to-day work of the project. Tasks include website maintenance, production of materials and the practical organisation of meetings with stakeholders.

Main tasks:

De Taalstudio is responsible for the coordination of the project's dissemination activities. The key person as well as the to-be-hired junior will participate in WP6. Apart from setting up and running the Dutch AThEME national branch of BM, De Taalstudio will facilitate exchanges of materials, experiences and practices for AThEME dissemination and support other national AThEME branches of BM in developing a dissemination network.

Dr. Verrips will be responsible for the further development of the AThEME dissemination-strategy and its implementation plan. Throughout the project she will be a consultant for other national AThEME branches of BM regarding setting up the branch, running it and connecting with stakeholders. She will also supervise the daily work of the to-be-hired student assistant/ MA.

PARTNER 17: Faculty of Humanities and Social Sciences – University of Rijeka – Croatia

The Faculty of Humanities and Social Sciences is part of the University of Rijeka. It is a modern interdisciplinary institution offering degree programmes at all academic levels. Located at a newly built university campus, it offers a pleasant and stimulating study environment for a total of 1,700 students. The Faculty consists of eleven departments, four of which are language departments, services providing administrative support and the international relations and project managing team.

Key Persons

Branka Drljača Margić is Assistant Professor in the Department of English Language and Literature. She obtained her PhD in Linguistics from the University of Zagreb in 2010. During her PhD she also conducted research on (attitudes to) Americanisms in British English

at Queen Mary, University of London. Her research interests include language contact (with a particular focus on the impact of English on other languages), linguistic borrowing, language attitudes and the presence of English in academic and research settings. She is currently running the project 'Implementation of English-Medium Instruction' at the University of Rijeka. She is also involved in three other projects, at the University of Rijeka ('Latent Borrowing in Croatian'), the University of Graz ('Differences between Bosnian, Croatian and Serbian') and the University of Sheffield ('English in Europe: Opportunity or Threat?'). WP2.

Tihana Kraš is Assistant Professor in the Department of English Language and Literature. She received her MPhil in English and Applied Linguistics and PhD in Second Language Acquisition from the University of Cambridge in 2004 and 2008 respectively. In the academic year 2010-2011 she carried out her postdoctoral project 'Language Processing in Bilingual Speakers', funded by the Croatian Science Foundation, in the School of Philosophy, Psychology and Language Sciences at the University of Edinburgh. Her research is on child and adult second language acquisition, second language processing, bilingual first language acquisition and, as of recently, impaired first language acquisition. She primarily focuses on ultimate attainment and crosslinguistic influence in second language acquisition and on the acquisition and processing of phenomena at the lexicon-syntax and the discourse-syntax interface. WP2, 5.

NN: One PhD student (full time, four years) to be recruited for WP2 and WP5. The student will be proficient in Croatian, English and Italian and have sufficient background in linguistics to be able to understand the relevant literature in the area of sociolinguistics, second language acquisition and bilingualism/multilingualism in general. The student will have strong analytical skills and good writing skills in English.

Main tasks:

The key persons and the to-be-hired PhD student will participate in WP2 and WP5. In WP2 all three team members will investigate possible effects of multilingualism on grammar changes in a situation of contact between Italian as a minority language in some parts of Croatia (namely the town of Rijeka and the region of Istria) and standard Croatian, primarily in the domain of morphosyntax. They will also investigate attitudes towards Italian as a minority language in Croatia and its use among Croatian monolinguals and Croatian-Italian bilinguals in Rijeka and Istria. In WP5 Dr Kraš and the PhD student will contribute to the investigation of ultimate attainment in second language acquisition and the advantages of bilingualism on the cognitive system focusing primarily on highly proficient Croatian-Italian bilinguals.

FHSS will coordinate the AThEME dissemination activities in Croatia via the branch of BM which will be established before the start of the project (1 March 2014).

B 2.3 Consortium as a whole

The project consortium has been formed on the basis of scientific excellence covering a range of disciplinary expertise in the area of linguistic diversity and multilingual research. The consortium consists of 16 researcher partners, and an SME participating centrally in dissemination from 8 EU countries. The research partners are universities (13 partners) and research institutes (3 partners). The partners in different countries ensure geographic and therefore linguistic diversity. In particular, each country provides different testing grounds due to different regional languages (e.g., Basque, Breton, Catalan, Frisian, Gaelic, Gallo, Italian in Croatia, Poitevin, Sardinian, Slovenian), as well as heritage languages from immigrant groups (e.g., Arabic in France, Polish in Germany, Berber in the Netherlands) The

various countries also allow us to compare the different government policies and their impact in the maintenance of regional varieties and stimulation of linguistic diversity. The project consortium has also included two Eastern European Countries, Slovenia and Croatia, which represent different multilingual situations as well as different governmental policies.

Besides the linguistic coverage, to address the multilingual challenge for the European citizen requires an interdisciplinary approach so that the various dimensions involved can be thoroughly investigated. The research partners in this consortium represent a necessary range of expertise in the humanities and social sciences. The linguistic expertise includes not only theoretical expertise in the area of phonology, syntax and semantics, but also expertise in descriptive linguistics, experimental linguistics (psycho-/neuro-linguistics), sociolinguistics, and clinical linguistics. The linguists will work closely with the psychologists (cognitive and social), as well as sociologists.

Despite the large number of partners, which is required by the complexity of the multilingual challenge, ATHEME does not anticipate difficulties in our work in this project, given the previous as well as ongoing collaborations between the partners: UNITN and UNIVR were partners in an European network with UL (*Bantu, Chinese, Romance nouns and nouns phrases*, funded by Dutch NWO); EHU, UR and UL had a joint project *Paramprocess: parametric effects in language processing* (funded by Spanish Ministerio de Ciencia e Innovación); EHU and UPF's *BRAINGLOT, Bilingualism and Cognitive Neuroscience* (funded by Spanish Ministerio de Educación y Ciencia); joint project of BCBL, UPF and EHU on *The emergence of grammar in the brain: a comparative study of acquisition, processing and cortical organization of the structural aspects of language in bilingual and monolingual populations* (funded by ESF/EUROCORES); EHU and IKER-CNRS's project on *Basque dialect grammar* (funded by Spanish Ministerio de Economía y Competitividad).

Furthermore, Many members of the consortium are co-authors of joint-papers (Tsimpli and Sorace; Cornips and Sorace; Costa and Sorace; Cheng and Demirdache; Laka and Sebastián-Gallés; Carreiras and Laka; Fernández and Etxepare).

Aside from the research partners, the consortium includes an SME, *De Taalstudio*, which will be responsible for dissemination activities together with *Bilingualism Matters* (<http://www.bilingualism-matters.org.uk>). Under the coordination from De Taalstudio, four new branches of *Bilingualism Matters* will be built to help maximize the outreach of the results of the project. *Bilingualism Matters* was established in September 2008 by Antonella Sorace at the University of Edinburgh as a knowledge exchange and outreach project aimed at bridging the gap between research and public perception of early multilingualism, in particular, concerning families with more than one language, families with minority, heritage languages, or families with regional languages. The goals of this effort are to change public attitudes to multilingualism, to shape educational policy and ultimately to promote multilingualism, enhancing their capacities and their competitive abilities in a global marketplace. BM has five European branches at present.

De Taalstudio (http://www.taalstudio.nl/index_uk.html) is a Dutch SME that specializes in the development and commercial exploitation of projects and products with a strong linguistic component. It was founded in 2003 and since then it has been run by Maaïke Verrips, a Dutch linguist with a PhD in language development obtained at the University of Amsterdam. De Taalstudio has a strong track record of activities and projects in the field of multilingualism and is at the heart of a network of organisations and individuals in the Netherlands and Flanders with an interest in multilingualism. De Taalstudio provides training to parents as well as to professionals in education and health care on the topic of child

multilingualism, and has organised various professional development conferences on the topic, for speech therapists, child carers, as well as for translators and interpreters. In September 2012, De Taalstudio organised the first Drongo festival, the first ever Dutch festival on multilingualism (www.drongofestival.nl). Drongo festival is to be a yearly event and expects to attract an increasing number of visitors each year (around 450 at the first edition).

There are 45 stakeholders attached to the consortium, who will be invited to the local consortium meetings and dissemination events, as well as the final conference in Brussels. They will help us with comments and suggestions regarding our work and progress. In the list below, the stakeholders whose interests are primary in *regional/minority* languages and *heritage* languages are separately indicated.

Regional/minority languages:

European level

The Network to Promote Linguistic Diversity, represented by Meirion Prys Jones, Chief Executive

Croatia

– The Italian Community in Rijeka (*Comunità degli Italiani di Fiume*), represented by Denis Stefan

France

- *Chubri Association* (association for the preservation of Galo language and culture), represented by Bèrtran Ôbrée (president)
- *Bertaèyn Galeizz* (association for the preservation of Galo language and culture), represented by Jean-Luc Ramel (president)
- *The public office of the Basque Language (OPLB)*, represented by Bernadette Soulé
- *IKAS: The French Institute of Basque Pedagogy and Didactics*, represented by Agnès Dufau
- *Seaska* (French Basque Private Immersion School System), represented by Paxkal Indo

Italy

- *Istituto Culturale Mòcheno* (institute for the preservation of the Mòcheno minority language), represented by Leo Toller
- *Kulturinstitut Lusèrn* (institute for the preservation of the Cimbrian minority language), represented by Anna Maria Trenti Kaufman
- *Istitut Cultural Ladin, Val di Fassa* (institute for the preservation of the Ladin (Fassano) minority language), represented by Evelyn Bortolotti.
- Regione Autonoma della Sardegna, Servizio Lingua e Cultura Sarda (for Sardinian), Represented by Giuseppe Corongiu
- Associazione "Sa Bertula Antiga" (for Sardinian), Represented by Salvatore Sarigu
- Istituto Camillo Bellieni, Sassari (for Sardinian), Represented by Michele Pinna
- Provincia di Trento, Servizio per lo sviluppo e l'innovazione del sistema scolastico e formativo (for minority languages in the Trento area), Represented by Miriam Pintarelli

The Netherlands

- *Fryske Akademy*, represented by Dr. Eric Hoekstra
- *Bureau Artdujour* (cultural advisors), represented by H. Op de Coul

- Het *Limburgs Museum* ('The Limburg Museum'), represented by Dr. J. Schatorjé (director)

Slovenia

- *Služba za slovenski jezik* (The Slovenian Language Service, of the Ministry of education, science, culture and sport), represented by Dr. Simona Bergoč (Head of Office)
- *Slov.I.K.* (Slovenian Educational Consortium), represented by Dr. Matejka Grgič, (Scientific Director of Slov.I.K.)

The United Kingdom

- *David Powell Associates Ltd* (company stimulating culture of local and regional communities), represented by David Powell (Director)
- *Children in Scotland*, represented by Marion Macleod (Senior Policy and Parliamentary Officer Children in Scotland)
- *British National Health Service*, represented by Peter Molyneux (Chair NHS South West London and St. Georges Mental Health Care Trust)
- *British Home Office*, represented by Collette Stone (Leadership Development Director)
- *Mothertongue* (charity offering practical support and counselling in native language of immigrants), represented by Beverley Costa (Chief Executive Officer)
- Bòrd na Gàidhlig (Gaelic board), representative: John Angus Mackay

Heritage languages:

France

- *Radio Plum'FM.* (community radio broadcasting partly in Galo), represented by Matao Rollo
- *La Maison des Citoyens du Monde* (MCM, a group of international associations for solidarity, human rights and citizenship), represented by Stéphanie Landais
- *Eur@dionantes* (radio multilingual community radio), represented by Laurence Aubron
- *Etrange Miroir* (association of artists from Nantes working on the theme of migration), represented by Marie Arlais
- *Europa, l'Europe en large, en long et de travers* (cultural magazine of European information), represented by Emmanuel Lemoine.

The Netherlands

- *Jeugd en Samenleving Rijnland* (JES) ('Youth and Society', foundation that stimulates equal chances in education for children of all backgrounds), represented by Jolanda Borst
- *OnderwijsAdvies* (organisation advising schools on education policies), represented by Marga van Mil

Spain

- *Department of Education, Language Policy and Culture of the Basque Government*, represented by Mr. Patxi Bazterrika (Secretary for Language Policy)
- *Ametzagaiña* (a language technology development outfit), represented by Josu Landa Ijurko
- *Elhuyar Foundation*, represented by Josu Waliño.

Others:

Croatia

- Ministry of Science, Education and Sports of the Republic of Croatia (*Ministarstvo znanosti, obrazovanja i sporta Republike Hrvatske*), represented by Staša Skenžić

- Education and Teacher Training Agency (*Agencija za odgoj i obrazovanje*), represented by Ivana Jurjević Jovanović
- National Centre for External Evaluation of Education (*Nacionalni centar za vanjsko vrednovanje obrazovanja*), represented by Marijana Vučić
- The City of Rijeka – City Department of Education and Schooling (*Grad Rijeka – Odjel gradske uprave za odgoj i školstvo*), represented by Marija Japundža Broznić
- Croatian Chamber of Economy – Pula County Chamber, represented by Lahorka Ropac

France

- *Fondation pour le Développement de l'Enseignement International (FDEI), sous l'égide de l'Académie des Sciences Morales et Politiques*
- *Institut de France* (independent think tank on multilingualism/multiculturalism in education), represented by Cathy Ducker and François-Xavier d'Aligny
- *UPLEGESS* (association of language teachers in elite higher education in France), represented by Jörg Eschenauer (president)

Germany:

- *Konstanz city council*, represented by Uli Burchardt (mayor); *Kliniken Schmieder Konstanz* (neurological rehabilitation clinic, part of a larger group of 5 clinics in Germany), represented by Lisa Sophia Friedrich-Schmieder.

Italy:

- *Centro di Riferimento Regionale per i Disturbi dell'Apprendimento* (regional centre for learning disorders), represented by dott.ssa. Maria Rosaria Cellino
- *City council of Verona, department of economic activities and production*, represented by dott. Francesco Spangaro
- *City council of Verona, department of social policies, Health, housing policies, education and sport*, represented by Antonia Pavesi
- *Fondazione ONLUS Marica De Vincenzi* (non-profit psycho-/neuro-linguistic research organisation), represented by Dr. Maria Teresa Guasti

The Netherlands:

- *City council of Utrecht*, represented by Mr. Hans Sakkers (head of the department 'Administration, Internationalization and Funding')
- *City council Leiden*, represented by Mr. Frank de Wit (Dept. of Education, Sport and Environment)
- *The European Platform*, represented by Stephan Meershoek

Slovenia

- *Pedagoški Inštitut* (Educational Research Institute), represented by prof.dr.Igor Žagar
- *National Education institute of the Republic of Slovenia*, represented by Katja Pavlič Škerjanc.

Spain

- *Alzheimer Catalunya* (Barcelona), represented by M. Eulàlia Serra i Bertran (director)
- *Associació de Familiars de Malalts d'Alzheimer de Barcelona* (Alzheimer's Family Organisation of Barcelona), represented by Inmaculada Fernandez Verde
- *Associació Familiars Alzheimer del Baix Llobregat* (Alzheimer's Family Association in Baix Llobregat, Barcelona), represented by M. Rosa Giner Quiñonero

B3. IMPACT

B 3.1 Strategic impact

The work programme of the call has pointed to the challenges for research and knowledge on multilingualism in European societies. In order to build a cohesive, integrated society it is necessary to acknowledge the many different forms of multilingualism, and the role that regional/local languages as well as minority and heritage languages can play in enhancing multilingualism in European countries. Multilingual speakers have an advantage compared to monolingual individuals and form an important resource, in particular of communication skills, that can benefit European communities and societies in the context of our increasingly globalized world and economy. AThEME has taken these as a starting point and has devised the research project so as to further the understanding of the challenges (for families, educators, health care workers, and policy makers) to stimulate, enhance and maintain multilingualism, to fill research gaps, and to provide a broader and sound basis for policy makers and educators to developing effective language programs and policy making. AThEME aims at making significant impacts at different levels.

The **first impact** is its **scientific impact** (through presentations in high-impact conferences, workshop, and through publications in high-impact journals): AThEME has been designed to generate comparative, in-depth, and scientifically grounded knowledge about linguistic, cognitive and sociological dimensions of multilingualism in Europe, both at the level of society and at the level of the individual (the European citizen), by involving partners in 8 different countries with different regional/minority and heritage language contexts. The partner countries in AThEME represent different linguistic varieties (not only the official languages in the countries, but also the regional and minority languages, as well as heritage language varieties) and sociolinguistic situations, making a cross-national comparison exceedingly beneficial in order to have a broader European picture. The design of the overall project ensures parallel experimental designs across different national sites, parallel research on linguistic diversity in language contact situations across Europe (for regional, minority and heritage languages), cross-national parallel development of tools, such as linguistic databases and therapeutic tools, and parallel, cross-national investigation of strategies and policies for language maintenance. This cross-national, parallel line of inquiry on multilingualism maximizes the impact of the results.

AThEME will deepen our understanding of, and deliver new important scientific insights about, various facets of multilingualism (which can be used in outreach dissemination activities), including (a) the linguistic nature of heritage languages, as well as indigenous regional languages spoken in present-day Europe (based on research results in WP3), (b) the acquisition of such languages in **multilingual** environments, including under non-optimal conditions of development (reduced access to input and opportunity to use the language), and consequences for the level of proficiency of the speakers in both the heritage/regional language and the majority/dominant societies' language, let alone the second/third languages learned in school contexts (based on research results in WP2 and WP3), (c) the effect of heritage/regional languages on the majority, dominant language (and vice versa), leading to the emergence of new variants in language contact situations (based on research results in WP3), (d) the extent to which early language experience provides heritage speakers with selective (linguistic and/or cognitive) advantages (and in which domains) over second language learners acquiring an extra language later in life (based on research results in WP3 and WP5), (e) issues related to language processing by bi-/multi-lingual speakers and communication (information exchange) between bi-/multi-lingual interlocutors (based on

research results in WP5), (f) the neuro-cognitive nature of multilingualism and its relevance to atypical language development and decline (based on research results in WP4 and WP5), (g) the status of heritage and regional languages within multilingual societies, including potential causes of decline and strategies of maintenance (based on research results in WP2, WP3, WP4 and WP5).

This scientific impact will be grounded in the study of multilingualism at three different levels of societal magnitude: (a) the individual multilingual citizen (i.e., the micro-level), (b) the multilingual group (i.e., the meso-level), and (c) the multilingual society (i.e., the macro-level). The integrative approach adopted by AThEME towards the study of multilingualism from a micro-, meso-, and macro-perspective further maximizes the impact of the results obtained in the project.

At the level of the *individual*, AThEME will yield insight into (measuring) an individual's level of multilingual proficiency, how multilingualism affects the cognitive performance of individuals, in particular, speakers with linguistic or communicative impairments (SLI and dyslexia), or aging individuals with neurodegenerative diseases (such as Alzheimer's Disease), asymmetries between comprehension and production of (unbalanced) bilingual (including heritage) speakers in language development or processing, the role of a person's attitude towards the languages/dialects (s)he speaks and the way this influences his/her use of the languages/dialects, including processes of language attrition. At the level of the *multilingual group*, AThEME will further our understanding of the role of the relation between language, identity and ethnicity in language development/attrition, the nature and success of information exchange in communicative contexts involving speakers with different language backgrounds and different levels of proficiency, a situation which will be more and more common in different institutional settings (education, business, health care, administration, etc.) in multilingual Europe. The results of AThEME will give individual users, families, educators, health care workers and policy makers a better understanding of the linguistic, communicative and social strategies that are used for linguistic "attunement" in multilingual environments, which can then help all these key actors make informed decisions – either an individual in terms of maintaining her heritage/minority language, an educator encouraging multilingualism, a health care worker using the right diagnostic tools, and policy makers making evidence based policies.

At the level of the *multilingual society*, AThEME will provide among others an accurate analysis of the distance between the *standard language* and the *non-standard* (oral) one in multilingual contexts involving regional languages/dialects. Such an analysis can help educators, and policy makers define the level of literacy (relative to the entire bilingual population) required to access basic levels of cultural transmission, such as the written press and other medias, or help the relevant societal groups in terms of language based cultural products, such as literature or TV and cinema. In the context of a regional language, this cost may be higher for a substantial number of speakers in view of the distance between the ordinary and the written or formal language. The creation of a standard is one of the basic achievements of a regional language, and it is a crucial component in the process of transmission in school and other formal settings. The massive incorporation of non-native population to the linguistic immersion system raises several issues, one of them being what we can call the grammatical shift in the ordinary language, the one used in non-formal situations, caused by contact with a majority language, sometimes a real landslide with regard to linguistic choices made 30 or 40 years ago in a completely different language situation. Usual evaluations of the state of a regional language tap on statistics like number of speakers, enrolment in different immersion models, or actual usage of the language outside school. The

issue of the standard (the “corpus” part of language policy) is one that appeared to be historically closed, but may nevertheless be emerging again in the context of the relative success of regional languages. What is at stake is the intuitive notion of “native speaker”, the relative weight that this representative speaker may retain in the overall linguistic situation, the set of linguistic choices that characterize nowadays the unmarked speaker of the language and its relation to the traditional or literate native speaker. This issue has important ramifications for policy making, having to do with the underlying linguistic criteria informing the standard transmitted in school, in television and in mass media, it may help to think in a different way about the difficulties in the development of a cultural industry in the regional language, and contribute to raise awareness of the new difficulties attaining apparently settled issues in language policy, particularly when the latter has been successfully deployed by means of state policies. This is certainly the case of Basque.

A **second impact** of the project concerns knowledge which informs education and social **policies** at the European and at the national level. The research premises and objectives of AThEME are geared towards optimizing the knowledge base for policy recommendations. The AThEME project analyses impact of policies on (a) successful maintenance of regional bilingualism and (b) stimulation of acquisition of heritage languages in different nations. This allows partners in AThEME to gather reliable cross-national data to bring recommendations to educational and policy makers through dissemination events (either local, regional or national and European). In addition, the work package 4, *Multilingualism and Communicative Impairment* investigates multilingual European citizens with common developmental disorders as well as multilingual elderly. AThEME aims at getting a better understanding (through the different tasks in the work packages) of the rapidly expanding database of observations coming from educators and care providers across Europe who deal regularly with a broad palate of language mixes. Much of the knowledge available to inform education, social and health care policies concerning citizens with common developmental disorders as well as the elderly comes from studies based on primarily mono-lingual populations or come from studies that treat multi-lingual aspects of the population as noise in the data. AThEME will provide insights to educators and health care providers as well as policy makers that will help pinpoint both the benefits and challenges that being multilingual brings to an individual and her community. Such a basic understanding will aid policy makers, stakeholders and citizens in making important (and evidence based) decisions regarding support for education and educational policy, work force and employment decisions as well as health care issues linked to well-being across the life span.

The **third impact** is on **improving the availability of data and tools** for research and policy on multilingualism, through the extension of the current database and the collection of new data. AThEME contributes to broaden and improve the availability of data on linguistic diversity in Europe. This will be realized by collecting and analyzing new data on linguistic diversity, complementing existing databases on regional languages and dialects, developing cross-dialectal and cross-phenomenal search methods for databases, and developing a comparative database on sociological and linguistic dimensions of heritage language competence (in comprehension and production). At the level of educational and health policy, AThEME will deliver further translational impact by validating a set of simple language neutral tools that can be used by educators and clinicians to accurately determine if children (and adults) showing communicative challenges are suffering from an underlying cognitive disorder. Exceptionally, these tools based on artificial grammar paradigms can also provide the basis for cognitive therapies that can be self-delivered thereby providing a path to high dosage therapies that do not require increasing clinician’s time.

The **fourth impact** relates to **methodology and research strategy**: AThEME employs a mix of methodological strategies and techniques that yield a rich and broad palate of data on multilingualism. This rich variety of research strategies and techniques includes traditional (socio)linguistic methods such as, for example, fieldwork on the basis of interviews and questionnaires, but also a variety of experimental techniques, such as sentence repetition tasks, word or probe monitoring tasks, comprehension and elicited production tasks, reaction time studies, executive function studies, and ERP/EEG studies. The use of different research methods and techniques will strongly contribute to a fundamental understanding of the various facets of a complex phenomenon like multilingualism, achieving the effect of cross-validation.

The **fifth impact** is on **engaging civil society actors** in research and policy formation by the dissemination activities in AThEME: the partners of AThEME will engage key stakeholders and policy makers at local, regional, national and European level with an interest in the topic of multilingualism directly in the research in AThEME, by requesting their assessment of the results of the research project from their perspective as civil-society actors and as policy makers in different kinds of institutional settings (e.g. education, health care, administration). Their assessment feeds back into the interpretation of the results from a policy perspective and into the delineation of policy recommendation. The transnational nature of AThEME will also create a platform at which policy-makers and civil-society partners acting at different levels of the European community (national, regional, municipal) and in different institutional contexts (education, health care, business, etc.) can find and inform each other, which will result in a European community where people can learn from good practices in multilingual policy from elsewhere.

B 3.2 Plan for the use and dissemination of foreground

For the dissemination activities of AThEME, the project will make use of the established public engagement and outreach programme developed by *Bilingualism Matters* (BM) (<http://www.bilingualism-matters.org.uk>), in collaboration with the SME partner, De Taalstudio. The project has chosen the model exemplified by *Bilingualism Matters* for the following reasons:

- a. It is run by researchers who are experts in the field of multilingualism and are experienced in knowledge exchange between academics and the public.
- b. It has demonstrated concrete results in terms of informing the general public as well as changing public attitudes towards multilingualism in the areas of early language learning, immigration, and regional minority languages.
- c. It has successfully collaborated with various levels of governments and institutions, both in the public and private sectors, for the encouragement of multilingualism over the lifespan.
- d. It is experienced in organizing various types of events whose targets range from parents, teachers, community groups, cultural institutions, health professionals and policy makers.
- e. It has an established European network (with a presence in Norway, Greece and Italy) and has taken an active part in some European initiatives (e.g. the Piccolingo project).

AThEME will establish and utilise public engagement and outreach programmes in each partner country to carry out dissemination activities for the project, in particular, for the promotion of multilingualism, as detailed in section 3.2.1 below. It should be emphasized that

by adapting the model developed by *Bilingualism Matters* does not entail that AThEME will only concentrate on bilingualism. The model of public engagement and outreach programmes will be straightforwardly extended from bilingualism to *multilingualism*. Most importantly, research results from AThEME aims to demonstrate to families, educators, and policy makers the importance of stimulating, maintaining regional/local languages, minority languages as well as heritage languages, showing a simple path to multilingualism. This will be emphasized in all dissemination workshops and events using the research results from AThEME.

3.2.1. Project related dissemination activities

1. Project website creation

Next to an internal virtual research environment (i.e., an internal project website), a public **project website** for AThEME will become available with all the project information on it as well as an extended “keep me informed” functionality (Facebook, Twitter) and links to other sites relevant to the subject of this project, such as EU Multilingualism Portal (http://ec.europa.eu/languages/index_en.htm). The design of the logo for AThEME will highlight the goal of the project, to *Advance the European **Multilingual** Experience*. This website will serve as the central repository of all dissemination activities by all the partners.

2. National websites creation to connect with the AThEME central project website

Next to the “central” AThEME website, each participating country (NL, FR, UK, DE, SL, ES, IT and HR) will create a **website in at least one national language** with up to date information about multilingualism in general, and about AThEME in particular. The national websites will be linked to the project website. Each partner will ensure that the information provided is relevant to stakeholders in their region and country.

3. Project newsletter and flyer creation and distribution

A **project newsletter** will be published at least twice a year and will be sent to the contacts in the database (to be constructed) containing all the stakeholders and policy makers related to the project. This database will be partly based on the information provided by the partners and will adhere to the privacy regulations in Europe and member states. Next to the project newsletter a printed and digital **project flyer** will be produced to be used in all dissemination events promoting multilingualism all over Europe that will take place for the duration of the project.

The newsletters and flyers will keep stakeholders and policy makers updated about the results and events associated with AThEME. Some stakeholders have already indicated that they will cover the developments of AThEME in their own newsletters or magazines (e.g., Europa, l’Europe en long, en large et de travers, a cultural magazine of European information has offered to cover the development of AThEME and its events).

4. Creation of four additional branches of Bilingualism Matters (BM) to facilitate public outreach for AThEME.

In order to facilitate and harmonize local activities and the coordination of global activities, a national branch of BM will be established in four of the 8 partners countries (ES, SL, FR, NL), which do not yet have a branch of BM. Each branch will be hosted by the participating institution (BCBL, UNG, Nantes and De Taalstudio respectively). The local person responsible for setting up the branch will be engaged by the local institution. UK and Italy already have existing branches (UK: Edinburgh and Reading; Italy: Trento), and Germany and Croatia will build a branch before the start of the project (using their own resources). In

total, the dissemination activities via the national AThEME branches of BM will be in all 8 countries connected to the project. De Taalstudio, together with UEDIN will be in charge of coordinating the AThEME dissemination activities promoting multilingualism through these 8 AThEME branches of BM. This will create a strong European network of dissemination, using the same public engagement and outreach programme.

5. Seminar and other events for dissemination

Each AThEME branch of BM (in total 8) further develops **their national network** (partially through other partners in AThEME) of interested people, organisations and policy makers with an interest in **multilingualism**. Each branch organizes one biannual seminar and at least two smaller events per year on **multilingualism** aimed at stakeholders and interested individuals, and groups, such as teachers, parents, community groups, cultural institution, health professionals, and policy maker from different levels of governance. Since the stakeholders include educational institutions as well as policy makers in each country, these events will reach key actors.

During the initial phase of the project the University of Trento team will produce interactive materials (hands-on models and computer simulations) which aim to increase public awareness of linguistic differences and similarities among contact languages. In a second phase these models will be tested in schools and presented in to-be-selected science fairs

6. Participating in events and festivals in Europe

Each partner may also participate in relevant national or international events organized by stakeholders. The presence of the project can vary from availability of the flyer to a major contribution (e.g., presentation, organisation of workshops in the event). For instance e.g., *Etrange Miroir* association of artists from Nantes creating events on the theme of migration, or European Day of Languages every year on 26 of September. The AThEME branches of BM will endeavour to connect the biannual seminar to major language-related-events in their respective countries, For example, the English branch will present their seminar at *Language Show Live* in London (www.languageshowconnect.co.uk), the French at *Expolangues* in Paris (www.expolangues.fr), the Dutch during the *Drongofestival* on multilingualism in the Netherlands/Flanders (www.drongofestival.nl), to name just a few.

7. In the final year of the project, the overall results will be presented in a large integrated presentation at one of the national events (to be decided in month 50).

3.2.2. Dissemination to Policymakers: Politicians and civil servants

In this section, we highlight the dissemination to policy makers, including both **European Policy makers** and **National Policy makers**. The dissemination at the European level will predominantly target the Committee for culture and education of the European Parliament and the DG EAC, which is the leading Commission DG for the area of language. As for the National Policy makers, two policy area's are prominent in AThEME: the Health care domain (parents, elderly, disorders, children) and the Education/ Social Domain (employees, businesses, teachers, pupils, parents, migration.) A third domain may be the Cultural domain (identity, ethnicity, literature, radio, TV, mass media, journalism etc). To identify these target groups each partner country will contribute a list of potential policy makers.

Furthermore, **Local and Regional Policy makers** form a third layer of potential policy makers to be targeted. Each partner institution will contribute a list of local and regional policy makers to the project.

It should be noted that many of the Stakeholders of AThEME are national or local/regional policy makers.

Dissimination plan and activities:

After an inventory of policy makers at European, national, local/regional levels is made, roughly organized according the three domains mentioned above, general and specific dissemination activities will be undertaken:

GENERAL: this includes sending AThEME newsletters and flyers.

SPECIFIC ACTIVITIES targeted to policy makers:

a. Policy briefings (see deliverables D.6.4, D.6.7 – D.6.10)

b. Each AThEME branch of BM will be responsible for organising/participating in national, local/regional events for the promotion of multilingualism, to which the relevant stakeholders and policy makers will be invited. AThEME will engage key stakeholders and policy makers at local, regional, national and European level directly in the research in AThEME, by requesting their assessment of the results of the research project from their perspective as civil-society actors and as policy makers in different kinds of institutional settings (e.g. education, health care, administration). Their assessment feeds back into the interpretation of the results from a policy perspective and into the delineation of policy recommendation.

Each AThEME partner will invite local/regional policy makers to smaller dissemination events and workshops.

3.2.3. Reaching out to the different target groups:

Next to the project own resources to reach out to the target groups, (websites and own contacts database), a multiplier effect is expected by partner websites, related subject websites and the use of Social Media, CORDIS and the FP7 SS&H website.

3.2.4. Dissemination of Scientific results

Scientific results of the project will be disseminated to the academic community and other scholars by:

1. Peer reviewed articles in international high-impact journals.
2. Conference/workshop presentations in major scientific conferences.
3. Research data from AThEME will be placed in a certified database for future researchers to use and validate. Preference will be given to existing and validated databases such as CLARIN and /or DANS.

As a rule AThEME will adhere to Open Access for publications as well as for research data.

B4. AThEME ETHICAL ISSUES

All work packages meet or exceed the requirements of informed consent as laid out in European and National ethical guidelines. Tasks in WP2 (Regional), WP4 (Atypical), and WP5 (Being Bilingual) involves behavioural cognitive psychological experiments and non-invasive neuroimaging of children and adults (see WP descriptions). These tasks will be carried out by experienced researchers in compliance with the ethical procedures mandated by

their institution's, state's and European ethical policies. The tasks will be carried out in the United Kingdom, Germany, Spain, Slovenia, the Netherlands, France and Italy. In all cases, ethical approvals for similar investigations involving children, children with Language Impairments as well as younger and older adults has been obtained. In most of the cases, the proposed research in WP2, WP4 and WP5 is closely aligned with other projects carried out in the respective institutions. Therefore, the approvals obtained will be extended so as to cover the studies in the current project. In cases where the studies in the current project differ from previous investigations, separate approvals will be sought from ethical committees in the respective institutions. In the case of minors, written consent to participate is obtained from the parent or guardian as well as consent from the child. The child and guardian as well as adult participants are told both orally and in writing that participation in the study is voluntary and that they can withdraw at any time without penalty. Furthermore, before and after each testing session there is opportunity for the subject and guardian to ask questions.

For the implementation of the project a Virtual Research Environment (VRE) will be built, through which the project will be managed. It will also serve as an enclosed repository for all research data, that will only be accessible to authorized researchers. After the project has finished, the anonymized data will be archived in a certified data archive (DANS or CLARIN) with Data Seal of Approval, according to the rules set out by the archive. All sensitive data will be erased. Duration of the storage in this sustained archive is as long as the data is relevant for further research, at least 5 years. All data will be handled according to the Code of Conduct for the use of personal data in scientific research of the Association of Universities in the Netherlands (VSNU).

WP4 deals with "the complex issues associated with multilingualism in acquired communicative disorders (usually associated with adults and arising from trauma or disease) and developmental communicative disorders (usually associated with children and typically arising from genetic disorders)" and will test, among others, dyslectic people and those with other communication impairments (including children). In WP4, Task 4.3, classic ethnographic methods such as participant observation, interviewing will be conducted in the nursing home De Egte in Echt, which is residence both to healthy bidialectal elderly people and bidialectal Alzheimer patients. In particular, participant observation takes place in common rooms and situations where participants are gathered with family-members or health care workers but also smaller group activities as game playing, or regular group activities. Interviews involve the researcher asking participants about specific topics such as their youth, work, family, language, their children, etc. The researcher in WP4, task 4.3 will request a written consent from each participant. In cases where participants are unable to provide a written consent, consent will be requested from a legally authorized representative (next-of-kin or guardian).

WP5 will "aim at ... how age-of-onset and language distance contribute to ultimate attainment in second language acquisition" by using "the experimental evidence provided by neuroscientific techniques (including EEG/ERP and fMRI". In this respect:

1. Copies of ethical approvals by the competent legal local/national Ethics Boards/Bodies/administrations will be submitted to the European Commission prior to the commencement of the relevant part of the research in month 12 (Milestone 7).

When submitting the application for scrutiny to the competent local/national ethical boards/bodies for authorization detailed information will be provided by the AThEME consortium on:

a. The procedures that will be used for the recruitment of participants (e.g., number of participants, inclusion/exclusion criteria, direct/indirect incentives for participation, the risks and benefits for the participants etc.) and the nature of the material that will be collected (e.g., human biological samples, sensitive or personal data etc). It will be explicitly stated if children or adults unable to give informed consent will be involved and, if so, justification for their participation will be provided.

b. The specific procedures that will be implemented to ensure the well-being of the children involved in the research and the procedures for ensuring assent.

c. The procedures and measures in place in case of unexpected/incidental findings as well as for the protection against MRI procedural risks.

d. The informed consent procedures that will be implemented. Copies of examples of Informed Consent Forms and Information Sheets will be included. These will be in language and terms understandable to the participants. Participants will have the right:

- To know that participation is voluntary;
- To ask questions and receive understandable answers before making a decision;
- To know the degree of risk and burden involved in participation;
- To know who will benefit from participation;
- To know the procedures that will be implemented in the case of incidental findings;
- To receive assurances that appropriate insurance cover is in place;
- To be informed on how their biological samples and data will be collected, protected during the project and either destroyed or reused at the end of the research. If it is planned to reuse the data, information must be provided in order to ensure that any involved minors will be re-asked for their consent as soon as they reach legal majority, in compliance with the Article 29 working group WP 147 00483/08/EN Document;
- To withdraw themselves, their samples and data from the project at any time;
- To be informed on any potential commercial exploitation of the research.

e. Privacy/confidentiality and the procedures that will be implemented for data collection, storage, protection, retention and destruction and confirmation that they comply with national and EU legislation, including the specific provisions on such issue in accordance with the EU legal framework.

2. The consortium partners responsible for the respective tasks will obtain from the data controller of their institution, written confirmations for the technical data protection procedures (data collection, storage, protection, retention and destruction) and confirmation that these comply with national and EU legislation framework and privacy/confidentiality measures that will be implemented in the project.

These confirmations must demonstrate compliance of the data protection processes with the European legal framework. Copies of these confirmations will be forwarded to the European Commission prior to the commencement of the related studies. (Month 14, Milestone 8)

If requested by their institution's data controller, the consortium partners will obtain approvals/opinions/authorizations from their national data protection authorities for the

intended data collection and processing (<http://ec.europa.eu/justice/policies/privacy/docs/wpdocs/others/2006-07-03-ademecum.doc>). If requested, copies of these documents will also be provided to the European Commission. In cases where the host institution does not have a dedicated data protection officer, and only then, the consortium partner will contact the national/regional data protection authorities.

3. An external independent Ethics Advisor will be appointed to lead the Ethics Advisory/Monitoring board, which oversees the ethical concerns involved in this research. A report prepared by the Ethics Advisor will be submitted to the European Commission with the Periodic Reports.

B5. GENDER ASPECTS

This consortium is well-balanced qua gender, both in the case of lead researchers of the work packages, and in the key participants in the partner institutions. For the researchers that will be recruited, the consortium will ensure that recruitment will be open, transparent and international. A broad selection committee (bringing together diverse expertise and competences, as well as adequate gender representation) will be formed to check the eligibility of candidates and set up a selection procedure in accordance with the ‘Code of Conduct for the Recruitment of Researchers’, paying due attention to achieving balance in gender.

The recruitment of experimental subjects will also follow the standard procedures, ensuring gender balance, in the interest of experimental results.