#### Abstract

The ever-increasing number of multilingual businesses relying on English as their communication language of choice has led researchers in the ELF domain for the past two decades to focus on BELF. Researchers claims that the difference between ELF and BELF is found in their different approaches to language. ELF speakers generally regard a successful interaction as a native speaker-like language use, whereas BELF speakers believe that a successful interaction is created through language use appropriate for the needs and requirements of the communicative event. A substantial number of studies on BELF in the literature today cover attitudes and analysis of employees' perception of BELF communication, while others have focused on communication strategies employed by workers in order to achieve successful communication. The aim of this study is to shed light on the latter. This study relied on audio recordings to investigate what types of code-switching occurs, what functions these switches hold and what they might lead to in a multilingual business. In total 12 excerpts involving one or more instances of code-switching was found. Of which I interpreted 5 to be tag-switches, 2 inter sentential switches, 4 intrasentential and 3 instances of second language discussions. In terms of function, 5 were interpreted to have a referential function, 5 an expressive function, 2 a directive- and integrative function and 1 poetic function. In addition to these results I have discussed some instances that might lead to linguistic erasure and found that there is a close link between the directive- and integrative function and the possibility of exclusion.

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## **1.0 Introduction**

The business world today experiences the coming-together of people from different cultures and language backgrounds more frequently and in a greater variety of settings than before. This is a result of globalization and development of new technology, which has made business into a multilingual environment as there is a greater demand for cooperation between companies from different nationalities. As a result, various business encounters are heavily influenced by co-workers who do not share the same native language and tries to communicate in a common lingua franca. Arguably, the most common lingua franca to date, and what this thesis is concerned with, is English. This thesis relies on audio recordings from a multilingual business to shed light on a phenomenon known in the literature as *Code-switching* (CS). The domain in which this thesis is concerned can be categorized as a branch of the study of English as a lingua franca(ELF) known as business English as a lingua franca(BELF). The aim of this study is to investigate certain features of CS within BELF and compare them to similar studies in other fields of linguistics, such as bilingualism and ELF. My research questions are specified bellow:

- What type of Code-Switching occurs in a multilingual business using English as a lingua franca?

- What function does Code-Switching have in a multilingual business with English as a lingua franca?

- Does Code-switching lead to linguistic erasure?

The research questions were composed considering the lack of literature that highlights how speakers switch codes in a business setting. The disposition of this thesis is composed in the following manner. First, I will provide background theory in sections 2.1, 2.2 and 2.3 on the globalization of English and how that eventually has led to research in the field on ELF and how BELF in turn branched out as a field in its own right. Second, in section 2.4, I will define CS as well as report previous studies that have focused on what types of CS can be identified, functions of CS and occasioning of CS as well as some implication of CS in BELF. In section 3 I will provide a methodologic overview of the present study as well as the analytic framework I used. Section 4 includes the analysis and results of the data I collected, before I move on to discuss the results as well as highlighting certain crucial examples from the data in section 5. Lastly, I will provide a conclusion to this study as well as suggesting further research areas.

# 2.0 Background and theory

## 2.1 English as a global language

To most people the statement: "English is a global language" seems obvious. In fact, English surrounds most people in the world because of its dominance on various platforms such as television and advertisement signs. Wherever you travel, English would be the reliable choice of lingua franca. Indeed, going to a restaurant in most foreign country they will understand English and there will be an English menu. Although it is obvious that English is a global language today, the question how it became a global language needs some further elaboration. Galloway and Rose (2015) refer to four channels to explain how English gained its position in today's society:

- 1) Settler colonization
- 2) Slavery
- 3) Trade
- 4) Exploration colonies and globalization

The first three channels are tied to the history of the British Empire dating as far back as the early 1600s. However, the intentions of colonization were not to globalize the English language, but rather to organize trade or settle. Globalization is an ongoing dynamic development, which has made it possible to spread the English language to countries which historically have had limited contact with the language.

One could argue that British settlement in North America has been the single most important factor in the maintenance of English as a global language after World War II and Britain's colonial retreat. Kirkpatrick (2007) refers to American English as the "powerful variety" and lists three reasons why American English is the most influential variety today. First, America's status as the most powerful nation on earth. Second, its political influence through popular culture (e.g. films and music). Third, America's close association with the increasing development of technology, which is a major asset of communication across the world (Kirkpatrick, 2007, p. 55). Evans (2013) states that English persists:

an inevitable consequence of the tightening and thickening web of economic globalization since the early 1990s, and particularly of the prevalence of cross-border mergers, acquisitions, and strategic alliances, the ubiquity of mobile communication devices, and the application of work flow software (Evans, 2013, p.228-229).

In the literature, the number of different varieties of English spoken both by native- and nonnative speakers are referred to as World Englishes (or WE for short). In order to understand the spread of English, Kachru (1985) constructed a concentric three-circled model where the circles are labelled the inner-, outer- and expanding circle. The inner circle involves the traditional bases of English and is where English is the primary language (USA, UK, Canada, Australia and New Zealand). The outer circle consists of regions that have gone through periods of colonization by inhabitants of countries in the inner circle. Furthermore, he claims that the colonization in these regions has led to linguistic and cultural effects, which are now a part of their history. The outer circle consists of a large number of diverse people with many different distinct characteristics. The main feature of regions in the outer circle is that English is one of two or more languages used in addition to it being the language of choice in domestic politics. Furthermore, English in the outer circle usually has a high status and is used in various social, educational, administrative and literary domains (Nigeria, Singapore, Ghana). The expanding circle consists of regions that do not necessarily have a history of colonization by speakers from the inner circle. This circle is the product of globalization and the recognition of the fact that English is a universal language. This circle encompasses a vast number of people including the inhabitants of China, Russia and Indonesia (Kachru, 1985).

Kachru's Circles have raised a number of questions, and Kachru (1985) acknowledges that there are some grey areas between the circles. For instance, where do certain regions fit in the model, such as Jamaica and South Africa? In addition to debates on whether this model "helps" establish a distance between English spoken in the inner circle and those of the outer and expanding circles, Crystal (2009) comments that the model cannot represent international English realistically as the reality is not so clear-cut. Although Kachru's Circles may raise more questions than it answers, it succeeds in showing that English is used by far more non-native speakers than their counterparts and it is a helpful model in discussing varieties of English and English as a lingua franca (ELF). In the next section I will summarize the development of ELF since it was first introduced in linguistic research and find it therefore useful to employ Jenkins' (2009) definition of ELF as a specific communication environment where English is the

common language of choice among speakers who do not share the same linguistic background (Jenkins, 2009).

It is important to note that there have been several different definitions of ELF, however, for the purpose of this study, Jenkins' view on ELF will be adopted. The reasoning behind this choice is that this study concerns an environment with speakers with different native tongues.

### **2.2 Development of ELF**

The earliest studies of ELF were first carried out by Hüllen (1982) and Knapp (1985, 1987) who stressed the importance of ELF in English language teaching in addition to demanding empirical studies that could identify the formal and functional aspects of ELF. The major breakthrough for ELF began at the start of the new millennium with Jenkins' (2000) empirical study on ELF pronunciation. Along with Seidlhofer's (2001) paper, which demonstrated the lack of empirical work on the most extensive contemporary use of English worldwide, ELF gained recognition and Vienna-Oxford International Corpus of English (VOICE) was announced (Jenkins et al. 2011). Since this launch, interest in ELF has increased including journals such as *Nordic Journal of English Studies* by Mauranen and Metsä-Ketelä, 2006, *Journal of Pragmatics* by Björkman, 2011 and the *Journal of English as a Lingua Franca* by Seidlhofer, 2012, published books (Jenkins 2007a; Kirkpatrick 2007; Seidlhofer 2011) and ELF dedicated conferences in Helsinki, Vienna and Hong Kong (to mention a few).

According to Seidlhofer (2011) communication in ELF establishes a different common ground between speakers than if they shared the same mother tongue. Non-native forms that are usually viewed as anomalies or mistakes by native speakers do not necessarily hinder communication in ELF. It is apparent, Seidlhofer (2011) claims, that non-native speakers are at a communicative advantage in linguistically diverse settings, as they are not as strongly influenced by native norms and therefore possess a greater understanding for non-native forms. In more recent studies, researchers have explored ELF in a number of different domains including education, politics, technology and business, the latter of which is the focus of the next section.

#### 2.3 Business English as a Lingua Franca (BELF)

Business English as a lingua franca, or BELF for short, has been a major focus for ELF researchers in the past two decades. Marra (2012) states that because of the increasingly globalized workforce and overwhelming use of English, there is now a significant demand for research in this field. Sociolinguistic research aimed at exploring how people use language to negotiate their working lives is therefore essential (ibid.).

A substantial number of studies in BELF cover attitudes and analysis of employees' perception of BELF communication (Zhgileva 2014; Rogerson-Revell 2007; Louhiala-Salminen et al. 2005), while others have focused on communication strategies employed by workers in order to achieve successful communication (Wolfartsberger 2009; Poncini 2003; Pitzl 2005). In addition, studies have revealed a complex relationship between English and other languages, in that English is viewed as facilitating communication but that other languages can serve as valuable strategic resources (Marra, 2012). Overall, researchers agree that BELF communication focus on content rather than form and that it requires domain specific linguistic knowledge (ibid.). Charles (2007, p. 265) points out that BELF is still in its infancy in that the "rules" of BELF and its operational guidelines have not yet been defined. However, she claims a start to defining these "rules" has begun by scholars who, as mentioned, have highlighted BELF discourse as content-based enterprise rather than correctness. By the "rules" of BELF Charles (2007) simply means the way in which BELF is to be explored by researchers (ibid.). She claims that because BELF is a different enterprise compared to ELF and that the two have different approaches to communication (ibid.) As an example, she claims that successful interactions in ELF are created through native speaker (NS)-like language use and linguistic competence. In BELF, on the other hand, successful interactions are created through language use appropriate for the needs and requirements of the communicative event (ibid.). Furthermore, the speaker in ELF aims to emulate NS discourse whereas in BELF the speaker aims to get the job done (Charles, 2007, p. 266).

In BELF as well as ELF speakers use various strategies in order to convey meaning. The following section will provide theory on a phenomenon called code-switching. I will provide an overview over the various functions this phenomenon serves in general as well as highlighting some previous studies in BELF where participants are exploiting their second language to achieve their communicative goal.

In addition, the next section will cover some reasons for why code-switching occurs as well as define linguistic erasure and look at some examples where this occurs.

### 2.4 Code-Switching

Nguyen (2015) reports that historically the definition of Code-switching (CS) has considered bilingual speakers and therefore been very narrow and subjective. Although he realizes that CS has been researched in different domains, he claims that CS is the alteration of languages in bilingual speech (Nguyen, 2015, p.16) Harzing et al. (2010) describes Code-switching as an "occurrence of second language users reverting to their native language in an ELF conversation", which provides a broader understanding than Nugyen's (2015) in that it covers both instances of CS within sentences as well as longer conversations. In CS one language is usually perceived to be the dominant language, which is often referred to as the matrix language (Gardner-Chloros, 2009, p. 100). The additional language in which a speaker switch to is referred to as the embedded language (ibid.) The matrix language lays out the basis for the communication and utterances from the additional language are embedded into the matrix language (ibid.).

Nguyen (2015, p. 12) states that CS, like borrowing and pidginization, has the same origin, namely the contact between speakers of different language on a different linguistic level. Still, Nguyen (2015) emphasize the importance of keeping CS, in its own right, as a distinct language phenomenon. This is an important distinction for this thesis as the difference between borrowing and CS might not be obvious at first glance under certain circumstances. Borrowing simply describes a process when one language borrows words from another (ibid.). An example of this is the word *computer*, which has gained entrance into many languages other than English, such as Danish and German. With the word being widely accepted and frequently used, it has become integrated into the recipient language and thus perceived as a part of this language (ibid.). CS, on the other hand, is viewed as an individual spontaneous occurrence. The difference is then deduced to borrowing being a phenomenon where loan words are adapted on a morphological- and phonological level into the recipient language, whereas CS is not (ibid.).

CS as a phenomenon has been discussed and analysed in many different fields of research and for many different purposes. Most obvious (maybe) concerns the study of bilingualism and the implications of having two separate language codes implemented as a part of one's identity and

culture (Gardner-Chloros, 2009). Language learning is another field in which CS frequently occur (ibid.). There may, however, be different approaches employed as to what these studies are trying to resolve. Even so, the common denominator is that they each look at involvement, influence or relation between two or more languages (ibid.). The next section considers the types of CS based on Poplack's (1980) threefold distinction from the field of bilingualism.

## 2.4.1 Types of CS

Following Nguyen's (2015) definition of CS I will now present the linguistic structures that are involved in CS. Shana Poplack (1980) investigated the speech of 20 Puerto Rican residents in a bilingual community in order to determine whether the equivalence constraint on CS may be used to measure degree of bilingual ability. As cited in Nguyen (2015, p. 15-16) Poplack (1980) proposed a distinction between three types of switching:

1) Tag switching

Tag switching involves an insertion of a tag, exclamation or a parenthetical phrase in another language. This insertion does not violate a sentence's syntactic structure and may be seen as just a filler utterance in beginning of sentences, at the end or around conjunctions. An example from the present study:

Ja at least! 10 years, then he's 72.

2) Intersentential code switching

Intersentential CS involves a switch of languages at the sentence boundary or between the sentences. One sentence or a part of one sentence is uttered in one language and the following in another. An example of this may be: "Sometimes I'll start a sentence in English **y termino** en español" (Nguyen, 2015, p.15).

3) Intrasentential CS

Intrasentential CS is referred to a switch within a clause or sentence boundary, which may run the risk of syntactic violation (ibid.). Here is one example of intrasentential CS from the present study:

yeah but eh: if if we have a: altså: eh: common

These types of CS are not necessarily sufficient to cover CS in all kinds of materials, especially as CS in BELF tend to stretch beyond a single sentence. However, it is interesting to compare types of CS from the bilingual domain to BELF and these distinctions will be considered in the analysis section of this thesis. The following section considers Appel and Muysken's (1987) perception of what functions CS has.

## 2.4.2 Functions of CS

Appel and Muysken's (1987) book had the purpose to provide an overview of sociological, psychological, sociolinguistic and linguistic aspects of language contact and bilingualism. Appel and Muysken (1987, p. 118-120) proposed six functions of CS based on a number of sources (see Apple and Muysken, 1987, p. 118):

- The referential function Switching can serve a referential function when someone is unable to express an idea easily in one language due to lack of knowledge or lack of facility in that language. A speaker then switches to the other language in order to express the idea more easily.
- 2. The directive- and integrative function Switching can serve a as a directive or integrative function when it involves the hearer directly. A speaker chooses to switch languages to either include or exclude other people from the conversation. An example of this is when parents try to speak a foreign language when they do not want their children to understand what is being said.
- 3. The expressive function Switching can serve an expressive function when speakers include the embedded language in order to express some part of their identity.
- 4. The phatic function Switching can serve a phatic function when a speaker switches language or repeats something in both languages in order to emphasize it.
- 5. The metalinguistic function Switching can serve a metalinguistic function when a speaker comment directly or indirectly on the languages involved.

6. The poetic function – Switching can serve a poetic function when a speaker says certain words or makes jokes in the embedded language for amusement or humour (ibid.).

There have been other attempts of similar classifications, however they have been criticized for having a lack of clarity and confusion of form and function (see Auer 1995). Nilep (2006) suggested therefore that in order to discuss functions of CS we should make use of some of the classifications listed above without sticking to them strictly (Nilep, 2006, p. 10). Appel and Muysken (1987) also takes this into consideration and further states that there by no means is certain that the functions have the same functions within each community.

## 2.4.3 CS as a pragmatic strategy

Klimpfinger (2009) has a more general classification of CS compared to Appel and Muysken (1987), claiming that CS has four functions in an ELF interaction; specifying an addressee, signalling culture, appealing for assistance and introducing another idea (Klimpfinger, 2009, p. 351). Klimpfinger's (2009) study was based on 12 hours of naturally-occurring, audio recorded spoken conversations from six workshop discussions and two working group discussions (ibid.). All of her 50 participants were academics and represented different universities in Europe (ibid.). A description of each of these four functions was defined in her study as follows:

- Specifying an addressee A speaker direct one's speech to one specific addressee in contrast to the whole group.
- Signalling culture A speaker switches into a language other than English, usually into their language of identification. One way of doing so is by a use of emblematic switches: A tag, an exclamation, or a parenthetical in one language is inserted into an utterance of another language.
- 3) Appealing for assistance A speaker asks another speaker with shared native language in the embedded language for a word in the matrix language.
- Introducing a new idea A speaker uses another language than English to express a topic. This occurs as a speaker are used to discussing a certain topic in another language, in most cases their native language (Klimpfinger, 2009, p. 359-364).

Three of these functions fall under the umbrella term pragmatic strategy, which is CS that brings meaning to the conversation. Pragmatic CS can for example be used to specify an addressee, introducing a new idea or appealing for assistance. Klimpfinger (2009) in her

analysis shows that ELF speakers resort to more than two languages in order to fulfil different discourse functions, to apply communication strategies and to communicate their multilingual identity. One example from her study, shown below, highlights both appealing for assistance and specifying an addressee:

- 1) S2: [French (B), f]: er it start with er er e:rm (2) definition of what is er a joint er program. (2)
- 2) er it could be (.) one (1) er study program (.) in com- er delivered in Common in the different er
- 3) (.) institution or one program (.) conceived together and located in one's side. or or two
- 4) programs interconnected (2) or (.) er  $\langle to S7 \rangle \langle L1fr \rangle$  consecutifs? {consecutive}  $\langle L1fr \rangle \langle to S7 \rangle \langle L1fr \rangle \langle L$
- 5) S7>
- 6) S7: [Dutch, f]:  $\langle un \rangle xx \langle un \rangle$  consecutive
- 7) S2: and consecutive. er (.) or one program with (.) a system of module (.) taken in another
- 8) university

(Klimpfinger, 2009, p. 363).

In this excerpt S2 is attempting to explain what a joint program is. Lines 1-4 are heavily influenced by pauses indicated by "(.)" in addition to filler utterances such as "erm". It is clear that English is not S2's first language and that she struggles to explain what a joint program is. We can see that S2 takes advantage of her L1 in line 4 due to the lack of an English word. S2 and S7's L1 (French and Dutch) share a lot of similar language features and this allows S7 to understand and translate S2's appeal for assistance, which ultimately serves as the most productive way of expressing S2's idea.

Klimpfinger's (2009) idea of the functions of CS can be seen in relation with Appel and Myusken (1987) in that *appealing for assistance* is similar to the *referential function*. Furthermore, *specifying an addressee* is defined here as CS preformed to direct one's speech to one specific addressee in contrast to the whole group (Klimpfinger, 2009, p. 359), which is similar to *the directive- and integrative function*. In addition to the functions overlapping those of Appel and Muysken (1987), Klimpinger (2009) also found that some of the switching found in her data could easily be assigned to one of the four categories she used in her analysis, others seemed to fit more than one scheme (Klimpfinger, 2009, p. 359). This could be the case of the excerpt above as **consecutifs** addresses S7 as well as it is an appeal for assistance.

Poncini (2003) explored the use of languages other than English as a strategy for more successful communication. She studied an Italian company's meetings with its international

distributors from 12 to 14 countries. In her study she stresses the importance of languages other than English, including Italian as a "lingua franca". She used recordings from several meetings over the span of two years to shed a light on the factors that can contribute to efficient communication in such settings. In her study she has provided selected excerpts from her data collection that highlight how switching from one language to another is beneficial in many ways to make communication successful. For example:

296 E: and what we can change it's only the black (+ +) the black (.) part (+) the black text (+ +)
297 after that we can send to you (+ +) or (.) we can send to you the come si dice l'impianto? eh? *how do you say l'impianto? huh?*298 F: the films (+)
299 E: the films (.) (Poncini, 2003, p. 24).

This excerpt shows that speaker E switches to Italian in line 297 (English translation in italics below), appealing for the English word for "film". This example is similar to Klimpfinger (2009) in that a speaker explicitly appeals for assistance when she's struggling to find the correct word. Here the speaker switches from English to Italian, taking advantage of another participant's common L1. Similar to Klimpfinger (2009) E's utterance is heavily influenced by pauses (indicated by (+)) and repetition (the black, the black) in line 296-297. The CS occurs at the end of line 297 where E switches to Italian asking for a word in English. F provides a translation and the conversation continues. Poncini's (2003) paper highlights situational factors and the effects of selecting a different language than English. She found that for example Italian is sometimes used to fill an apparent momentarily lexical gap (as in the example), to check presentation content (e.g. a product feature), to give instructions or to refer to the meeting agenda etc. These functions that Poncini (2003) highlights, is relatable to both Klimpfinger (2009) as well as Apple and Muysken's (1987) functions of CS. The example above can be assigned to Klimpfinger's appealing for assistance as well as Apple and Muysken's Referential function. Furthermore, Poncini (2003, p. 26-27) investigated the use of different languages during small group discussions. In the example below, Poncini (2003) highlights how participants take on different reception roles as a speaker alternates between languages:

4406	FinM	it's very good for biking in the evening and ( )
4407	Е	((toG)) [Eyewear Model2] richiesta (+)
		Request
4408		((to group)) so all of you (.) agree ( + ) (ing) to have (.) Plus (.) 888
		(.) instead of (.) clear lens
4409	Ger	yes ( + ) but it but it
	Е	5:02:28 ((E addresses company members in front of the
		room))
		( effettivamente )
		( actually )
		((overlapping conversations; while E and some company members
		speak in Italian, some distributors discuss in small groups))
		((can hear a group speak in German 'ist besser als clear ganz
		Clear' —is better than clear very clear —and someone laughs))
		15:03:08
		((E continues to speak to company members))
		Abbiamo parlato (dovevamo) portare Avanti
		(dovevano)
		we spoke (we) were to move ahead with
		(they)
4410	Е	5:03:24 ((to entire group)) ok ( + + ) ((room completely quiet))
		no problem for the for the (2) Plus 888 (3)
(Ponci	ni, 2003,	p. 26-27).

This example highlights how speakers with shared native language huddle together to compare notes before moving on with decision making. Here, the overlapping conversations in line 4409 lasts for about a minute indicated by the numbers 5:02:28 and 5:03:24. Poncini (2003) claims that the roles of the participants, and that they allow for these type of conversations, lead to resulting discussions and decision making.

Wolfartsberger (2009) investigated the scope of situations in which English was used as a BELF in four companies in Vienna. The focus of her study relied on audio recording from a face-to-face meeting in an Austrian bank where participants spoke four different first languages (Austrian German, Czech, Romanian and Slovakian). During the meeting, Wolfartsberger had the opportunity to participate as a silent observer, which allowed her to take note of body language, disturbances etc. She found that during this meeting participants used a variety of pragmatic collaboration strategies to ensure comprehension, either by explicit utterances asking for help or implicit by various hesitation phenomena such as repetition, pauses and filler words.

One example Wolfartsberger (2009) provides highlights how the current speaker explicitly asks for assistance:

1 LENA: @@@@@@@ so as you said (.) the content should be more (.) erm business
2 related more (.) closer to the employees' daily work (.) we said that er (.) we should
3 write or ask the employees something like or concerning their (.) daily work or their
4 main (.) er (.) now how could i say that (1) sophie please help me <6>@@@</6>
5 SOPHIE: <6><@>what do you</6> want to say?</@> (1) (Wolfartsberger, 2009, p. 210).

In addition to Lena's explicit appeal for assistance via the utterance "sophie please help me", this dialogue demonstrates how BELF communication in some instances is highly influenced by pauses (indicated by (.)) and simplified language. A means of which to achieve successful communication here is a speaker's appeal for assistance. In this excerpt we can see that Lena's utterances is heavily influenced by pauses and incomplete sentences. Wolfartsberger (2009) also found that collaborative-turn completion, in which a listener completes a turn that was begun by another speaker, was another strategy employed in BELF communication. Contrary to Klimpfinger's (2009) excerpt the participants here do not code-switch in order to appeal for assistance, however, Wolfartsberger (2009) stresses that CS is an obvious choice in word-search situations in order to address interlocutors for help (Wolfartsberger, 2009, p. 211).

The studies above highlight some pragmatic strategies found in ELF (Klimpfinger) and BELF (Poncini and Wolfartsberger). The common denominator for these studies is that talk is heavily influenced by pauses and repetitions.

### 2.4.4 Occasioning of Code-Switching

The excerpts in the previous section highlighted that CS can occur when speakers from the same language background find themselves in the same conversation in their second language, because this enables them to take advantage of their shared mother tongue as a communicative strategy. However, there are other factors that can cause CS as well. Myslín and Levy (2015) relied on three hours of spontaneous Czech-English conversation among five proficient Czech bilinguals living in California. The aim of their study was spread over three objectives. First, they developed a formal account of CS and information content. Second, was to test the meaning-predictability of CS against certain control factors. In these tests they included several disciplines such as sociolinguistic-, discourse-functional- and psycholinguistic factors. Third,

they wanted to bridge a methodological gap in existing research in CS between observational and experimental methods (Myslín and Levy, 2015, p. 872). Two of the speakers in their study were born in the US and were English dominant, one began English acquisition at the age of five and the final two learned English in their thirties (Myslín and Levy, 2015, p. 880). Myslín and Levy (2015) found that there are some lexical and syntactic contextual factors that can influence language choice. One of the factors that they report is called triggering. A trigger word could be a proper noun such as Oslo. These trigger words may be stored in completely shared representation across language systems (Myslín & Levy, 2015, p. 875). Thus, when a trigger is produced, activation of the second language increases and so does the probability that the next word is a CS (ibid.).

Cognates is another factor that can cause CS, where translation equivalents with overlapping lexical form, like Dutch-English *boek-book* (Kootstra et al., 2012, p. 801). Kootstra et al. (2012) used two experiments in order to test to what extent bilinguals' tendency to copy the position of CS from primed sentences in their description of pictures is influenced by, among others, the presence of a cognate. Both experiments involved a priming task where the participants were auditorily presented with sentences and visually presented with pictures to describe. The participants in the first experiment were 30 ninth-grade students from the Netherlands and the second experiment consisted of 27 students at a university in the Netherlands. Kootstra et al. (2012) report that many studies have shown that cognates are processed faster and more accurately than matched control words. This facilitation effect is believed to lead to a high degree of cross-language activation and thus CS (ibid.). This is called triggered code-switching and is consistent with the cognate facilitation effect in that activating a cognate increases the likelihood of CS (ibid.). Kootstra et al. (2012) hypothesize that "the tendency to switch at the same sentence position as in a code-switched primed sentence is stronger when the sentence contains a cognate than when it does not contain a cognate" (Kootstra et al., 2012, p. 801).

Another factor that potentially influences code-switching is the speakers' proficiency level in both languages. In addition to testing the influence of a cognate, Kootstra et al. (2012) also tested whether a bilinguals' relative language proficiency was of any importance. They report that in bilingual language tasks a higher proficiency level reflected a lower cost of switching between L1 to L2 or vice versa. This lower cost of switching was concluded after looking at neuroimaging studies that revealed that people with relatively high levels of language proficiency engage more often a common neural network for both languages (Kootsra et al., 2012, p. 802). This allows speakers with high proficiency to switch between languages more easily. In addition, Poplack (1980) discovered in her analysis of interviews of members of the

Puerto-Rican community in New York that speakers with a Spanish-dominant language mostly switched between sentences whereas the more balanced speakers switched more within sentences. From this she concluded that a bilingual's level of grammatical integration of both languages is dependent on her relative level of proficiency in both languages (Kootstra et al., 2012, p. 802).

### 2.4.5 Linguistic erasure

In the aforementioned section on CS as a pragmatic strategy, the researchers focused on what function CS in various excerpt entailed. Other BELF studies have focused on business professionals' perception of English as the language of choice. Most of these studies have therefore employed qualitative methodology in the form of interviews and observational studies.

Harzing and Feely (2008) used socio-linguistic theory to explore the language barrier in the relationship between HQ and its subsidiaries. They claim that CS often occur at key moments in a meeting when second language users huddle together and revert to talking amongst themselves in their native language (Harzing and Feely, 2008, p. 55). Harzing and Feely (2008) state that second language users are aware that their comprehension might be inadequate and therefore feel the need to compare notes before moving on to the critical discussion issues (ibid.). However, to the other participants in the conversation, who probably don't speak the other group's language, a CS in the middle of a conversation might "smack of conspiracy and double-dealing" (ibid.) They claim, however, that there is no reason why code switching should impair the relationship between a HQ and its subsidiaries. If speakers who feel the need to compare notes simply call for meeting pauses and reasons for the pause were explained, then problems could be avoided (ibid.). In reality, though, code switching tends to occur spontaneously and without explanation, feelings of exclusion and suspicion that can easily boil over into hostility can occur (ibid.)

Louhiala-Salminen et al. (2005) looked at the recent development of English as a communication medium in Nordic businesses. The Scandinavian languages are closely related, and English has not played a major role in business communication in these countries in the past. However, as business mergers, in more recent years, have expanded overseas, it has become more and more common to "choose" English as a corporative language. Louhiala-Salminen et al. (2005) focus on the challenges of English interaction in two Swedish/Finnish companies. They relied on interviews and a questionnaire to analyse the communication

challenges. The questionnaire focused on language use, communication practices and cultural views, which formed a starting point for interviews. Their findings suggest that, in the case of this merger, speakers do not use pragmatic collaboration techniques to overcome the language barrier. The interviews suggested that language skills were linked with power, in the sense that employees with unsatisfactory language skills were excluded from meeting and thus from decision-making. Excluding people for unsatisfactory language skills is not unusual in the literature. Gal and Irvine (1995) calls this phenomenon linguistic erasure. According to these authors:

Erasure in the linguistic sense is a semiotic(meaning-making) process of differentiation. It is the process by which some individuals and activities become invisible owing to the observer's tendency to fit sociolinguistic phenomena into existing linguistic beliefs (Gal & Irvine, 1995, p. 974)

Lønsmann (2014) also noticed linguistic erasure in her study of a multilingual organization in Denmark. The study showed that Danish employees were critical of native English speakers (NES) who believed that all Danish employees were proficient in English. The English-speaking employees, particularly the ones who had lived in Denmark for a long time and had not learned Danish, were considered to be reluctant to socialize with and integrate into the Danish community. Lønsmann (2014) explained that Danish employees presumed that all Danish employees in the organization were proficient in English. This supposition was influenced by their ideological belief that Danes in general are proficient in English. This conception presented the Danes as a homogenous group within the organization and failed to notice the differences within the group, for example the presence of Danish employees, who could not speak English at all.

Harzing et al. (2010) explored CS as a pragmatic strategy in BELF-conversation. They investigated German and Japanese corporate HQs and their subsidiaries in Japan and Germany. They used an interview-based method to answer whether there was a language barrier between the speakers in this merger and to discuss solutions on how to overcome this barrier. They held semi-structured interviews in 8 different companies and found that language was seen as an important barrier, and that it slowed down business processes and incurring additional costs. In this study the interviewees had the opportunity to express their feelings towards the use of, among others, code switching. Harzing et al. (2010) defined CS as an occurrence of second

language users reverting to their native language in an ELF conversation to talk between themselves. In this study the participants regarded CS as something positive and important as a solution to the language barrier, contrary to the other studies above. The interviewees concluded that if CS was needed in order to achieve a common ground of understanding, the remaining people in a meeting would wait patiently until the native conversation was at an end.

# 3.0 Methodology and empirical data

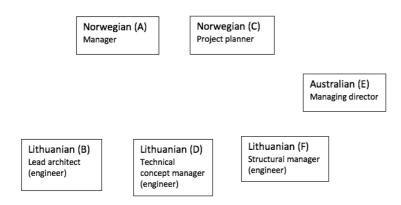
This study aims to figure out what type of CS occurs and what functions they have in a multilingual business with English as a lingua franca. The study relies on audio recordings from meetings between co-workers in a multilingual business based in Norway. The company specializes in steel construction for industry and sport arenas. The company is based in Norway where they operate from a single office and have two additional offices located in Lithuania. In total the business has 320 employees. The audio recorded meetings in this thesis transpired in Lithuania, so I was not present during the meetings nor in the organisation of the meetings. The main function of these meetings is to discuss ongoing and upcoming projects, as well as discussing calculation strategy. In addition, they share ideas of improvements in general, which coincidentally is the case for the two meetings in this thesis. Normally these meetings are held once a month spanning two to three days where participants of each meeting may vary. Present during these types of meetings may involve managers, project planers, architects, structural engineers, technical engineers and calculators. Because this meeting took place in Lithuania the participants selected were based on availability and nationality (some meetings had only Norwegian participants). The data collected consists of five total hours of recording form four different meetings. Of these recordings, two were chosen for transcription due to group structure and relevance. The qualitative data will be analysed through a conversational analyst perspective.

## 3.1 Participants selection

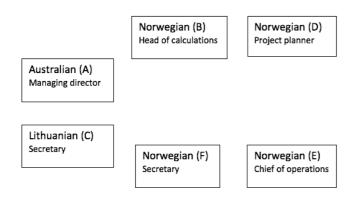
The participants in this study were chosen based on availability and nationality. The company in which this study is concerned organize meetings on various locations in Norway and Lithuania about once every month. As, mentioned above, the selection of the participants was therefore random as people included in these meeting is often based on the location of the meeting, the agenda or specific projects.

The first recorded meeting consists of two native Norwegian-, one native Australian- and three native Lithuanian speakers. The two Norwegian speakers work alongside one another at an office in Norway and are often involved in the same projects. The Australian works on the technological side of things and travels around the world representing the business. The

Lithuanians are acquaintances and works, currently, on the same project. This meeting is led by one of the Norwegians, A, who is the manager of the business. Below is a description of the participants involved in this first meeting and is not a representation of seating arrangement.



The second meeting consists of four Norwegians, one Australian and one Lithuanian. The four Norwegians work in the same office based in Norway and have a strong relationship to one another as co-workers. The Australian is the same person as in the first meeting and spends most of his time working from an office in Lithuania. The Lithuanian present in this meeting works as an assistant for the Australian. This meeting is led by the Australian. Below is a description of the participants in this meeting.



## 3.2 Audio recordings

This study is based on audio recordings as a means of data collection. The participants were informed that they were being recorded prior to the meetings and they had to sign a consent form (See Appendix 1). The information the participants received did not include critical information on CS and only stated that the recording was to be used in analysis of strategies in

business English communication. Even so, it is natural to believe that some of the discourse may have been influenced by this information in addition to the recording device. However, because the participants did not receive any information on CS as a phenomenon it is unlikely that they overused or underused this strategy in the current data.

The recorded sessions took place in a meeting room in an office building in Lithuania. These meeting can be described as having natural occurring talk, because although the agenda for this meeting was not set by the researcher and the participants were all acquainted with the meeting structure and environment. The recording device was placed in the middle of the table by one of the Norwegian employees and all voices were distinct and easy to distinguish from one another. Both meetings started by an initial explanation of the recording device before the participants proceeded to discuss the meeting's agenda.

#### 3.3 Transcription

Two meetings were chosen for transcription and analysis. The reason for this was the group setting of the different meetings. Three of the meetings were led by a native Australian and comprised mostly of monologues, which is not ideal in a study on CS into Norwegian. One of these three meetings, however, included some discussion and is transcribed and analysed here in 4.2 below. The fourth meeting was led by a Norwegian (section 4.1), which allowed for a comparison with the meeting lead by the Australian. The two meetings comprised of a total of 2 hours and 30 minutes. The first meeting (Norwegian led) lasted for 1 hour and 10 minutes and the second meeting (Australian led) lasted for 1 hour and 20 minutes. Most of the data included monologues or presentation-like talk, which was easy to transcribe, but there are also instances where there are small group conversations in multiple languages. Overlapping simultaneous speech cannot be completely described and when this occurred the recording normally picked up wholly or partially the conversation nearest the equipment (Poncini, 2003, p. 35). Ten Have (2002) claims that when utilizing transcriptions in conversational analysis (the analytic framework that will be used on this thesis, see section 3.4), there are inevitable losses which the two processes recording, and transcription bring about. Consequently, one has to clarify which aspects, properties or features of the original one will analyse and explicate (Ten Have, 2002, p. 24-25). Furthermore, Ten Have (2002) claims that there are certain drawbacks of using transcriptions in that the researcher might proffer and instruct readers in ingenious ways of reading them as evidentiary support for their arguments (Ten Have, 2002, p. 33). In

this study, however, as I merely observe when CS occur in the data, which is an apparent observation and less controversial than other ways one can read transcriptions. When it comes to the reasoning and interpretations of the CS, the reader is free to disagree or question the observations I have made.

The transcription conventions listed below is partially inspired by Poncini (2003):

0	Overlapping speech
-	Word cut off
(1.0)	Pause indicated by seconds
[name]	Anonymous names of people or places
Bold	Code-switching
:	Elongation of vowel or consonant sound.
[inaudible]	Unable to transcribe what is said due to disturbances on the recording.
[laughter]	Participants laughing.
(phone call)	Interruption due to participant receiving a phone call

## 3.4 Analytical approach

The analytical approach to the date in this thesis is based on conversational analysis, which is closely related to discourse analysis. Marra (2012) states that workplace discourse research look to identify how language is used to achieve both task and people-oriented goals. Discourse analysis' strength is that there are multiple readings of any text of data, which emphasizes the complexity of talk (Marra, 2012, p. 198). The goal of discourse analysis is to provide an understanding of social reality highlighted by the participants. Furthermore, researchers of discourse analysis typically collect and analyse naturally occurring talk in order to understand ways language(s) are used on an everyday basis in the workplace context (Marra, 2012, p. 198). Clyne (1994) reports that there is a sociological counterpart of discourse analysis referred to as conversational analysis (CA). CA focuses on talk, which is rule governed, as the object of investigation to investigate social structures and relations (Clyne, 1994, p. 7). Although there seems to be a fine line between discourse- and conversational analysis, some researchers (See: Heritage 1998; Atkinson & Heritage 1984; Schegloff 1992) claim that CA is different in terms of both focus and method. Their main reasoning is that CA only focuses on the social interaction and does not include written texts. In addition, CA follows Garfinkel and Goffman's initiative in that CA determines methods and resources that the interacting participants employ as conversational tools in order to make sense of their talk (Heritage, 1998). The main idea of this thesis is to analyse elements of conversation in order to understand the what functions CS have

in various settings as well as discussing what implications it may lead to. I have chosen to categorize CS based on Apple and Muysken's (1987) six function as well as dividing the two meetings due to a clearer structure.

# 4.0 Analysis and results

In this section I will present the results and analysis from the two meetings. I find it useful to split the meetings into two sections, which in turn have been divided into subsection based on what function a particular CS has. 12 excerpt that included CS (some excerpts involved more than one example of CS) have been analysed across the two meetings, 8 in the first meeting and 4 in the second. The analysis is organized as follows: First I will consider the actual excerpt, what transpires, what are they discussing in the excerpt, what happens before the CS and the actual CS linguistically. Second, I will consider the actual type, if any, the CS has based on the framework of Poplack (1980). If it is a switch spanning several clauses it will be regarded as a L2 discussion and not one of Poplack's types of CS. Third, I will consider the function of CS based on Apple and Muysken's (1987) six functions of CS. Forth, I will interpret whether the CS is caused any of the factors highlighted in section 2.4.4. It may be the case that some examples occur without any factors listed in section 2.4.4, in which case a possible reason will be interpreted at the beginning of the excerpts' analysis. Last, I will question whether there is any reason to believe that the excerpt might lead to linguistic erasure.

### 4.1 Norwegian led meeting

This first meeting involved four men from Lithuania, two Norwegians and one Australian. In this meeting the participants are discussing upcoming projects for their business, transfer meetings and a new project standard. The meeting is led by a Norwegian male and he does most of the talking. The other Norwegian is appointed a position in an upcoming project in which he will be the boss of the four Lithuanians, as project manager, and he briefs the Lithuanians on what their role for the project is. The Lithuanians chips in with comments and questions. The Australian enters the meeting towards the end, so most of the conversation in this meeting is between L2 speakers of English.

## 4.1.1 Referential function

## Excerpt 1: "Derfor"

This specific excerpt transpires about ten minutes into the meeting when the participants discuss different roles of people attached to a specific project. Their discussion involves how one can get a contract signed at an early stage when drawings for the project are unfinished. Prior to this excerpt A has given instructions to the other participants on new procedures from when the company has a handover meeting to when the building process should begin. The excerpt starts with as D questions the procedure.

- 1. D: One question eh: when we sign a contract with the carpenters and other parts roofers and so on (1.0)
- 2. when- before the handover meeting (1.0) [On which basis:] is: [contract because] the drawings will not
- 3. be there-
- 3. A: no (1.0) but on the same drawings (1.0) as we signed contract with the customer (3.0)
- 4. D: mhm
- 5. A: [Because the drawing quality] is: what it is: (0.5) for [name] now drawing quality are pretty high
- 6. (1.0) attached to the contract (1.0) the same drawings are: in his: attachment to contract with [name]
- 7. D: mhm
- 8. A: Everything from this stage will be eval-uation orders (1.0)
- 9. C: mhm
- 10. A: And drawing updates (1.0)
- 11. C: **derfor** [also we] need to have an up and running variation order system (1.0)
- 12. A: yeah (2.0) because eh the: headache before we was with waiting for the last last drawings before we
- 13. get the: last offer and updated price and updated contract (1.0)
- 14. then the time: was going month after month
- 15. D: [but then there] will be more: details after the: contract
- 16. A: of course eh revision zero comes
- 17. D: [only] here
- 18. A: [eh] about here
- 19. D: [yeah but its] after the contracts: were signed so:
- 20. A: yeah because (0.5) we want the contracts with the sound contractor internally minimum (0.5) signed
- 21. at the same basis as the customer contract (1.0) because [variations internally]

The speakers are discussing signing of contracts when D in line 1 and 2 asks a hypothetical question on which basis one can sign a contract with for example carpenters when the drawings

are not finished. A who is leading the meeting explains that the contracts will be signed on the same basis for all people involved in the project stating in line 3: "no (1.0) but on the same drawings (1.0) as we signed contract with the customer (3.0)" and in line 5 and 6:

"[Because the drawing quality] is what it is for [name] now drawing quality are pretty high (1.0) attached to the contract (1.0) the same drawings are in his attachment to contract with [name]." "[name]" at the end of line 6 here is the name of the client in the specific project their discussing, and A explains that the client, as well as carpenters and other people involved will receive the same drawings when they are asked to sign a contract.

The code-switching in this excerpt occurs when C, a Norwegian project developer, utters in line 11: "<u>derfor</u>" [also we] need to have an up and running variation order system (1.0)."

Variation order system is a system that engineers use in order to control if there are any variations to a specific building. The system is also a way to let everybody involved know if there are any variations at any point in time. Say if they are building an apartment complex and one of the customers wants to have tiles in their hallway, this would be a variation order. For this discussion on drawings C expresses that he wants to have a variation order system in place, so that everyone can see if there are any revisions in drawings. Revision zero here will be the first drawing of the project. C initiates his sentence with *derfor* here, which is a Norwegian word, which translates, under some circumstances, to *therefore*. It seems likely that *therefore* is what C means here, as the following statement resembles a conclusion, or rather a solution to the discussion on drawings when signing a contract. Another reason to believe that "therefore" is the word C is looking for is the similar phonological disposition:

Norwegian "derfor" /'dærfor / English "therefore" /'ðeəfə(r)/

Regarding the type of CS, *derfor* has some of the characteristics of tag-switching, in that it is at the beginning of the sentence and may be considered a type of parenthetical remark. On the other hand, *therefore* is a conjunction and serves as a connecting word and thus "own" a syntactic function. Another reason why I hesitate to claim that this fits into the description of a tag-switch is the rest of the utterance in line 11 and the sentence as a whole. The use of *also* in line 11 may indicate that this is an addition what has been said, however, based on the context of this excerpt it is more likely that C is trying to convey a conclusion rather than an addition. A more fitting utterance would have been something like: "That is the reason why we need a

up and running variation order system." The use of *derfor* and *also* is a bit contradictory here, as *derfor* indicates a conclusion, whereas *also* indicates an addition or new information. However, I believe that the reason why C uses both words is a way of filling the time of his utterance as he struggles to find the correct word to use. I therefore interpret *derfor* to be a tagswitch.

It is a difficult task to place this CS in any of the functional categories in the theory, as it is not easy to distinguish between the different functions. Nilep (2006) suggested that in order to discuss different classifications of CS we should make use of some of the classifications listed above without sticking to them strictly. *Derfor* is placed in the referential function category here, although it is not an idea that C struggles to express, but rather a single word. I suggested above that C's utterance might be an example of a way of filling the time of his utterance, and that *derfor* might be an appeal for assistance, based on Klimpfinger's (2009) description. Klimpfinger (2009) also mentioned that CS often fit more than one scheme, which certainly is the case here. *Derfor* can also be seen as signalling culture, which Apple and Muysken (1987) calls as CS having an expressing function. Another important point to consider in this excerpt is, how can we be sure that all participants understand *derfor*. Even though we see the similar phonological disposition, it could be the case that *derfor* is comprehended only by the other Norwegian present in this meeting. In that case this CS would have a directive- and integrative function.

As mentioned, *derfor* has similar phonological disposition to *therefore*. It is tempting to draw similarity to cognates. In that *derfor* is activated because it is similar to therefore. Kootstra et al. (2012) report that many studies have shown that cognates are processed faster and more accurately than matched control words. This facilitation effect is believed to lead to a high degree of cross-language activation and thus CS (ibid.). However, the literature on cognates and CS reports that when there is a cognate in a sentence a bilingual speaker is more likely to CS in the same sentence.

In terms of erasure, I believe that there is no reason to believe that the CS here contributes to feelings of exclusion.

### Excerpt 2: "Sekundering"

This specific excerpt transpires 14 minutes into the meeting when the participants discuss different roles of people attached to a specific project. In particular they are discussing what is expected of B, the engineer, and how C will plan meetings and control the workers.

- 1. B: So basically from you we will get this project plan and we can plan our engineering everything like 2. that
- 3. C: [mhm]
- 4. B: We get feeling-
- 5. C: [I] I will eh: request: frosm you [from the list]
- 6. B: yeah
- 7: C: that we meet(1.0)eh: and I will put date (1.0) this one this date and [I will need this one] this date and
- 8. eh if there is eh: (1.0) some: changes in: in the progress if eh: the project is: moved it's
- 9. very important that we: also update eh: engineering plan [and this list:] with the same amount of eh:
- 10. weeks
- 11. B: mhm.
- 12. C: eh just (1.0) bare bare et spørsmål Sekundering hva blir det på engelsk?[laughter]
- 13. A: Eh\_ja
- 14. C: Sekundring [laughter] hørtes ikke rett ut (7.0)
- 15. A: hmm Progress checking (2.0) kanskje prøv og oversett det motsatt da (5.0) following up with the
- 16. progress (6.0) eh: [so to answer this: question from you:] we have conflicts between controller and
- 17. operation
- 18. B:

yeah

- 16. A: [The controller will not do anything] (1.0) he eh: as a project developer he do a lot here(1.0) and
- 17. arrange the handover (1.0) but when it's the handover then it's the operation who will do everything
- 18. (0.5) but he just control that they are following [the variation order:] structure [following] the: non
- 19. conformist: structure

Prior to this excerpt, A has briefed B and C on their different responsibilities on upcoming projects. This excerpt starts with B concluding the brief in line 1 by stating that the engineers will get the project plan from C before they can start planning their work. B has a checklist that he has to fill out and give to C and in lines 5-10 C is summarizing what has been said in the brief by A. The CS in line 12 starts in English with "just": eh just (1.0) **bare bare et spørsmål Sekundering, hva blir det på engelsk?**, which translates into something like: "just, just a question. Decision lines, what is that in English?" The two Norwegians, A and C, discuss for a while how to explain to B what they mean by *sekundering* before A decides to explain the role

of C to B very plainly in English as we see in line 16-17. Ultimately, A provides a simple solution to their confusion in line 18-19: "but he just control that they are following [the variation order:] structure [following] the: non conformist: structure." Basically, A is saying that C will check the progression of a project and that he otherwise will not be involved. The word C is appealing for, *sekundering*, in this context basically translates to what A suggests in line 15: *progress checking*, or in line 15 and 16: *following up with the progress*.

Because A and C start conversing in Norwegian this excerpt appears to fit Harzing et al's. (2010) description, in that the Norwegians revert to their native language. In terms of type of CS this does not fit into Poplack's (1980) threefold distinction of CS. One could, however, interpret this type of CS as an intersentential switch as C initiates his sentence in English with *just* and then finishes it in Norwegian, similar to the example Nguyen (2015) proposes: "Sometimes I'll start a sentence in English **y termino en español**"

In terms of function, C utilizes A and C's shared native language as a pragmatic strategy in order as he is searching for a specific word. Apple and Muysken (1987) refers to this type of switch as having a referential function. Klimpfinger (2009) pointed out that pragmatic CS can for example be used to specify an addressee, introducing a new idea or appealing for assistance. It is apparent that C appeals for a word that brings meaning to the conversation with B. Furthermore, Wolfartsberger (2009) stresses that in word-search situations CS is an obvious choice in order to address interlocutors for help. Moreover, this excerpt is similar to that of Poncini's (2003) paper, which highlights situational factors and the effects of selecting a different language than English. Here C utilizes Norwegian to fill an apparent lexical gap. In addition, we can see similarities to Poncini's excerpt in that there is a lot of pauses and elongation of vowels, which is also highlighted by Wolfartsberger (2009).

Although the Norwegians spend some time talking amongst themselves, C initiates his utterance with *just* in English and then switches to Norwegian. The following words of the sentence in Norwegian *bare, bare* translates into *just, just* in English. I interpret this as C trying to signal to the Lithuanians that he needs assistance to complete his idea. The word "just" in English could pragmatically mean "hang on a minute" or "wait" and could be what C intends as he shifts his attention to A to discuss the meaning of a specific word. Harzing and Feely (2008) highlighted that the need for CS in BELF is easy to understand as comprehension of

second language users might be less than perfect and they simply have to compare notes before making critical decisions. They also pointed out that feelings of exclusion and suspicion, which can occur when a group of speakers switch to a language the other group do not understand, can easily be avoided if pauses and reasons for the pause were explained. Although, C does not explain why he switches, he certainly indicates it by uttering *just*. Of course, the Lithuanians do not know what the Norwegians are discussing, and they might feel excluded.

## Excerpt 3 "besluttningslinjene"

In this excerpt the participants are discussing the involvement of project planners (PPs) and their role on various projects. This discussion transpires about 18 minutes into the meeting and the CS occurs as C is trying to express how quickly the decision of involving PPs took before the first PPs was in place. The participants have settled, prior to this excerpt, that the PPs are a necessary assistance in planning a project prior to week zero (the start of a building).

- 1. A: [name] will love project planners (1.0) eh: [name] will hate them before he understands that it's:
- necessary (1.0) but: I'm sure in one year we will have PPs in [name] (0.5) but now nothing (1.0) Yeah 3.
   But eh: [name] eh: want it (0.5) so the first PPs are now traced from [name's] office he try to find PPs
- 4. [laughter] yeah
- 5. D: mhm.
- 6. A: and: architects [have focus on design]
- 7. C: [This describes that] the (1.0) eh: **besluttningslinjene** eh: decision lines in eh: [name] they are very
- 8. short (0.5) this: eh: idea was eh: launched (0.5) by [name] (1.0) yesterday eh: It's eh: 24 hours
- 9. A: Yeah (0.5) opening the door to: [name's] Mercedes [laughter]
- 10. C: So:
- 11. D: [We didn't discuss that]
- 12. A: [laughter] yeah [laughter]
- 13. C: I have not seen that in my Mercedes but [laughter] (2.0) but eh: but yeah: but 24 hours from:
- 14. A: Idea
- 15. C: Idea to: action yeah

A, in line 1-4, jokingly talks about how different people will have different views toward PPs in that some might find PPs to be annoying to deal with. The code-switch occurs as C is trying to express the rapid decision of involving PPs in line 7. *Besluttningslinjene* is uttered after a pause and an elongation of a vowel sound. This indicates that C is thinking about his next word. The word *busluttningslinjene* is plural and provides the same syntactic disposition as "decision

lines", which is what C ultimately translates the word to. Even though there is a lot to say about both semantics and syntactic structure of C' sentence as a whole, the CS and the translation of the word provides exactly the same feature.

In terms of type of CS, this example seems to fit Poplack's description of intrasentential codeswitching as it occurs in the middle of the sentence. Poplack claims that this runs the risk of syntactic violation, however, this is not the case in this sentence. As mentioned above, the CS and its translations provides the same feature.

Contrary to the example of *sekundering*, where the two Norwegians commenced in a discussion in their L1 in order to figure out the meaning of the specific word, this example is only a oneword CS. I interpret this CS as having a referential function based on Apple and Mysken's (1987) description. C clearly struggles to express his idea indicated by a one second pause in addition to the elongation of the vowel sound after *eh* before the CS. However, contrary to the example *sekundering*, this is not necessarily an appeal for assistance. However, this seems to be a pragmatic strategy in that C uses CS here as a filler word in his search for the correct word in English. On the other hand, it could be the case that C is appealing for assistance to A, but evidentially finds the word on his own after uttering the CS out loud.

This CS is not an example of exclusion of the other non-Norwegian participants, as the two Norwegian does not go on a tangent and speak Norwegian for a while as in *sekundering* above. The rapid translation from C removes the possibility of a long Norwegian discussion, and he commences in English quickly after he finds the English word he is searching for.

# Excerpt 4 "sporthall"

This excerpt transpired about 37 minutes into the meeting. The participants are informally discussing plans for an eight-kilometre-long tunnel to transport salmon, as A is on the phone and the meeting is paused. The CS occurs as C wants to utter that their company had a dream of becoming the largest constructors of sports arenas in Norway.

- 1. C: it's a dream (0.5)
- 2. D: It's a dream but the- [they already have working eh:]
- 3. C: yeah but (0.5) [couple of years ago (1.0) being the: largest] eh: **sporthall** (1.0) sport arena: builder in
- 4. Norway (0.5) was also a dream (0.5) today we are (1.0) so:
- 5. D: [laughter] yeah (2.0)
- 6. C: everything starts with a dream (2.0) even (1.0) you have this eh: this: known person I have a dream
- 7. D: yeah

C and D are agreeing that building a tunnel in concrete to transport salmon is a dream in line 1-2. C switches codes in line 3-4 as he struggles to find the correct English term: "yeah but (0.5) [couple of years ago (1.0) being the: largest] eh: sporthall (1.0) sport arena: builder in Norway (0.5) was also a dream (0.5) today we are (1.0) so:" We can see that in this sentence C's utterance is filled with elongation of vowels and pauses before he says *sporthall*.

*Sporthall* is uttered in the middle of the sentence and is therefore an example of an intrasentential CS. This example is similar to that of *besluttningslinjene* above, as C translates the CS himself after a short pause. However, in this excerpt it is natural to believe that no translation was needed, and that D understood perfectly the meaning of *sporthall*. Because of the phonetical and lexical similarity of this example, it is not unlikely that the Lithuanian (D) understood this code-switch before C "corrects" himself by uttering "sport arena". Even though the English word "hall" is different from "arena," they are similar in that they both paint a picture of a big room in one space. The reason I interpret this as being a CS in the first place is because C utters this word with a Norwegian phonology /hal/ compared to the English /ho:l/. One could make the argument that this is an example of phonetically similar CS similar to *derfor* above.

Furthermore, the function of this CS is similar to the *sekundering*-excerpt in that it seems, at first glance, to be an appeal for the correct term. The difference is that C does not have the other Norwegian in the meeting to appeal to, which makes it easier to interpret this as a filler utterance to buy time. In the *sekundering*- excerpt, C utilized the possibility of using L1, as the other Norwegian was a part of the conversation, in order to make sense of the sentence in L2. We can see that after the utterance *sporthall*, there is a pause of one second, which I interpret as C struggling to express his idea, therefore the CS has a referential function.

One can argue that this example has a strong correlation to the cognate phenomenon. As mentioned above the similar phonetic feature in addition to semantic meaning between the word *hall* allows for this deduction. Kootstra et al. (2012) reported that cognates are processed faster and that this facilitation leads to a high degree of cross-language activation.

In terms of erasure, this example does not involve an exclusion of the other non-Norwegian participants, as the two Norwegian does not go on a tangent and speak Norwegian for a while before he eventually switching back to English like in the *sekundering*-excerpt. The rapid translation from C removes the possibility of a long Norwegian discussion, and he commences in English quickly after the appeal for meaning.

# 4.1.2 Expressive function

Most of the CS from this meeting that have an expressive function is found by the use of the Norwegian equivalent of "yeah", namely *ja*. All of the excerpts involving *ja* are tag-switches that are an expression of cultural identity. None of the CS under this section is believed to lead to any linguistic erasure. Even though this is the case, I have chosen to analyse them separately because of their variation of use. This will be explained and become more apparent in the analysis.

# Excerpt 5 "aggregats"

This excerpt transpires at the same time as the previous, about 37 minutes into the meeting. Immediately after getting of the phone, where the last excerpt ends, A almost interrupts C and D's conversation and resumes the meeting. The CS occurs as A is summarizes what his phone call was about.

- 1. A: Next week (0.5) costumer and [name] ventilation (0.5) and [name] will have a important meeting he
- 2. said (1.0) to (0.5) set location of ventilation **aggregats** (1.0) set eh: main eh: lines: for things (1.0) and 3. then eh: (phone call).

In this short excerpt A reports that there will be a meeting between a customer, a ventilation business and a member of A's company aimed to set a location for ventilation generators. The CS here in line 2 *aggregats*, is interesting in many aspects. "Aggregate" in English means a

total of something. For instance, in football they say the aggregate score, which is the combined score over two or more matches. Notice how the CS here occurs with no elongation of vowels or pauses indicating that this is a word used in this context before. It may be the case that when this word was first introduced in this company, the CS had a referential function. However, as time has passed, the employees have just used *aggregats* instead of the English "generator". If this specific business variety of English, in its own respect, had been codified as a native language, one could make the argument that aggregates is an example of a borrowed word from Norwegian. The reason for this is difficult to say, however, I have found, in my job as a teacher, that it is often the case that when Norwegians do not know an English word, they guess. In Norwegian the word for generators is "aggregat" and considering that English has a word with the same phonology in "aggregate" it is a natural guess. Essentially, this type of switch is known in the literature as a false friend. A false friend is defined in the English Dictionary as a word or expression that has a similar form to one person's native language, but a different meaning. The interesting thing in this excerpt is that this company has applied *aggregat* to have the Norwegian meaning. Moreover, it is interesting to see how they consider English grammar "rules" in order to account for the countability of the noun by applying the -s suffix.

In terms of type of CS, this is an example of intrasentential switch as it occurs in the middle a clause. I interpret the function of *aggregats* to be an expression of A's cultural identity and has therefore an expressive function. There is no reason to believe that the CS leads to any exclusion and therefore no linguistic erasure.

# Excerpt 6 "ja"

This excerpt transpires about 28 minutes into the meeting and the participants are planning a second handover meeting for a specific project. The CS here is an example of a tag-switch that A utters as he lists the names of people who will be joining this handover meeting. Prior to this excerpt the participants are discussing when the meeting should take place and the most optimal location for it.

- 1. A: then eh: (0.5) [name] talk with [name] (1.0) and decide (0.5) the time for [laughter] but [name] ja
- 2. anyway [name] (1.0) and: (2.0)
- 3. C: yeah for: [name] will be general February March(0.5)
- 4. A: yeah minimum (2.0)
- 5. C: **ja** at [least] (3.0) 10 years then he's 72
- 6. A: yeah and we: need seniors [laughter]

In line 1 A decides that he should talk to a couple of people before they settle for a day to have the meeting: "then eh: (0.5) [name] talk with [name] (1.0) and decide (0.5) the time for". The first CS in this excerpt is a typical tag-switch in line 14-15: "[laughter] but [name] ja anyway [name] (1.0) and: (2.0)". First A suggests that a person should talk with a second person to decide the time for the meeting. Then he laughs and states another name before the Norwegian tag "ja" occurs. Considering that this tag is fairly similar to the English "yeah", it is clear that it does not obstruct meaning to the conversation. Furthermore, the pragmatic meaning of "but anyway" here is A basically stating, "disregard what I just said or did", and the tag "ja" in addition to the laugh is a type of behaviour Norwegians do when they want to express exactly that. The conversation continues in line 16 when C mentions the same name: "yeah for: [name] will be the first week of February, however, C with this utterance says jokingly that this one individual might be too busy to make it.

### Excerpt 7 "ja" and "til"

This excerpt transpired about 36 minutes into the meeting. A is on the phone, which is an inaudible conversation, and the other participants find themselves in an informal conversation about a project they discussed at dinner the night before.

- 1. D: what was the: result of the meeting (0.5)
- 2. C: It's: no yeah (0.5) it was just eh: [name] eh: (1.0) introducing the idea for: [name] (1.0) [so that he

3. can] start

- 4. D: the idea is: to have eight kilometre long tunnel for [inaudible] capsule with a foundations to hold it
- 5. (2.0) [that would be- (1.0) in [the whole world actually] because the whole world is looking for the:
- 6. [company with producing in many countries] 0.5)

- 8. B: storage
- 9. C: no not storage but eh: the: company that: pack eh: stand: eh: ja (2.0)

<sup>7.</sup> C: and eh: and the main thing is to: eh: the idea is to: transport salmon from eh: the tanks **til** eh: the:

10. B: with [inaudible]

11. C: mhm (0.5) eight kilometres (3.0) [salmon eight kilometres in hour (2.0) [name] was speaking about]

This excerpt starts with D in line 1 asking C what the result of the meeting was. C's answer in line 2-3 consists of a lot of small pauses and vowel sounds, which indicates that he is uncertain either of what was said at the meeting, or due to language issues. In line 4-6 we see that D actually knows a lot about the project C discussed at the dinner last night in that he knows that they are planning to build an eight-kilometre-long tunnel. C further elaborates in line 7 stating, "and eh: and the main thing is to: eh: the idea is to: transport salmon from eh: the tanks til eh: the:" The code-switching here "til" is a single word code-switch meaning "to", but also the English "till" can be a fitting translation, in spoken language when it is used as an abbreviation of until, under some circumstances. However, the English "till", which has the same phonetic features, is used when a clause involves time, whereas the Norwegian "til" can have multiple uses. For example, the English "till" as an abbreviation of until is similar to the Norwegian "til" in this sentence: "I am going to stay at Dragvoll till 9 pm". In this case "Til" is similar to the example of "derfor" because of the similarities of the equivalent English word. However, in this context you cannot use the English "til" because they are talking about moving salmon from- and to something. Furthermore, there is no reason to believe that D struggles with comprehending this sentence. In addition to the word being similar to the equivalent English word, the sentence is formed in such a way that there is a limited amount of words in that fits where "til" is uttered. When C utters: "transport salmon from..." D automatically anticipates the word "to".

On the one hand "Til" is a preposition and has therefore a function in the syntactic disposition, which indicates that this might be an example of intrasentential code-switch. The switch occurs in the middle of the sentence C utters and provides meaning to the sentence. On the other hand, one might assume that this is an instance of a phonetically similar utterance. As for the function of this CS, I interpret *til* to be an expression of C's cultural identity, and therefore has an expressive function.

In line 7 we see that C struggles to find the word and B guesses "storage" in line 8. C declines this in line 9 saying that it is not the storage, but still struggles to find the word he is looking for. We can see that C has a lot of elongation of vowels and he clearly want to find the word for the place where the company packs the salmon. At the end of line 9 we see the tag switch

"ja", which is what C resigns to, as he is unable to find the right word. As we know from Poplack (1980), tag switching involves an insertion of a tag or exclamation. This insertion does not violate a sentence's syntactic structure and is seen as just a filler utterance, here at the end of a sentence. The tag-switch here is similar to the "ja" in the excerpt above, in that it pragmatically translates into something like: "it does not matter, you know what I mean". The function of the "ja" here is similar to the previous excerpt in that it is an expression of cultural identity and it does not compromise comprehension of the other participants.

# Excerpt 8 "ja"

About 40 minutes into the meeting C utters yet another "ja"-tag-switch. However, here there is a conversation between the Norwegian C and Australian E. The discussion here is about tool systems, which provides a more understandable way of highlighting certain details of a project. The Australian has just come into the meeting at this point and prior to this excerpt he asks who is coming for dinner. The Australian is not a part of the meeting initially, however, since he is there, C takes advantage and asks him a professional question.

- 1. C: we are talking: about eh: tool syst- systems that needs to be in place rather soon
- 2. E: mhm mhm
- 3. C: ah: and eh one of them is: non conformance
- 4. E: yeah
- 5. C: there we: have this application that
- 6. E: mhm
- 7. C: you also have on your phone
- 8. E: yeah
- 9. C: with: database solution and things like this
- 10. E: we got one actually in SharePoint it's actually non-conformance system in there (1.0)
- 11. C: ja and: yeah this is a one solution and eh: there might be others
- 12. E: yeah
- 13. C: and in SharePoint
- 14. E: yeah
- 15. C: but if we: the main (1.0) thing is that it (0.5) needs to be something like this [inaudible].

Prior to this excerpt the participants have discussed tool system without E, who comes in coincidentally for the last portion of the meeting. With E being present, C takes the advantage of asking about non-conformance system. In line 3-7 C states that the workers use an application

to deal with non-conformance, which they also can utilize on their phone. In line 10, E states that they also have this system in SharePoint, which is a program with many different functions that they utilize in all of the company's projects. The tag-switch occurs in line 11: "ja and yeah this is a one solution and eh: there might be others". C starts his sentence with the Norwegian word "ja" meaning "yes" and then immediately switches back to English. The difference with this tag compared to the two other examples is that it is an expression of agreement rather than of not being able to express something. In addition, this tag is at the beginning of a sentence, whereas the others have ended a sentence. Similarly, though, it is a switch that does not interfere with the syntactic structure and is just a filler utterance and a subconscious exclamation expressing C's identity.

#### 4.2 Australian led meeting

In this meeting the participants are going through procedures revolving drawing registers and storage structure. The main agenda of the meeting is to agree on how drawings in particular, but also how other documents should be stored digitally. A native Australian lead this meeting. Four Norwegians are present as well as one Lithuanian. The Norwegians present are responsible for storing data in various areas of a project (e.g. concrete, steel etc.). The Lithuanian works as an assistant and is there to assist the Australian in his briefing of the four Norwegians. This meeting compared to the previous in chapter 4.1, contains a lot more CS that facilitate discussions in Norwegian.

#### 4.2.1 Referential Function

# Excerpt 9 "Norwegian discussion, altså"

This excerpt transpires about 20 minutes into the meeting as the participants are discussing the problem of storing IFC-files in multiple places. It is apparent that the storage structure is a labyrinth for the workers and E appeals, prior to this excerpt, for a common folder where all IFC-files are located. A is presenting various tools in a software program, which has drawings of a certain building, called BIM-X. This software makes it easier for the workers to store files when they are on a project's location. The CS in this excerpt occurs as D proposes a shared BIM-X account to reduce cost.

- 1. B: in norwa- in Norwegian app store it's: five- fifty euro
- 2. A: fifty euro okay so it's not too bad because you can measure and you can do a lot of things
- 3. B: yeah yeah
- 4. D: yeah but eh: if if we have a: **altså:** eh: common
- 5. E: nei drit i det og holde på: frem og tilbake med det der nytter ikke vet du
- 6. D: jo jo det går fint
- 7. E: hvis alle sammen skal drive å logge seg av og på (1.0) bare tull [laughter]
- 8. A: but you'll see in this model here it should have everything just let me sit down for a second I
- 9. [laughter] find out why it's (3.0)
- 10. B: yeah.

In line 1 we can see that B has figured out the price for the BIM-X program in app store and A considers this to be a fair price in line 2. In line 4 D suggest that they should buy a shared account on BIM-X: "yeah but eh: if if we have a: <u>altså:</u> eh: common". Although D is not able to finish his sentence it is apparent that he suggests a shared account for BIM-X as he is immediately interrupted by E in line 5. When D proposes that the company should get a shared account for BIM-X, E immediately switches to Norwegian in line 5. In line 5: <u>"nei drit i det å holde på: frem og tilbake med det der nytter ikke vet du"</u>, D is basically saying that it does not work to "go back and forth like that" and in line 7 continues stating that if everybody is to log on and off all the time, it will be a mess. The discussion ends here and in line 8 we see that A is trying to get on with the meeting.

D clearly struggles to utter his idea, which is noted by his elongation of vowel sounds, repetition of words and the CS *altså*. *Altså* /altsɔ/ in Norwegian is an adverb that can be translated to "accordingly", "therefore" or "so" in English. However, *Altså* can also be seen in discourse as a pragmatic particle. A pragmatic particle in linguistics is a word or a phrase that is used to fill gaps in discourse. A good example of a pragmatic particle in English would be the phrase "you know". Speakers in discourse frequently use the phrase "you know" to fill gaps in a variety of situations. For example, at the beginning of a sentence, between sentences or here to fill the gap as they are figuring out what to say: "A: right (1.0) we have: (0.5) you know everything is synchronized (1.0) because it offers its own server" (form the present study). One could argue that this switch is an intrasentential switch, seeing that it occurs in the middle of an utterance. However, because this is just an utterance to fill a gap it can also be considered a tag-switch. The tag-switch here is similar to most tag-switches in this study in that it is used as a tag in search of the correct term and as a pragmatic particle.

In terms of function I interpret *altså* as having a referential function as D is unable to express his idea easily. One can also argue that D is appealing for assistance by switching in the middle of his sentence. This example is similar to Wolfartsberger (2009) findings in that utterances asking for help can both be explicit or implicit. D might be implicitly asking for help here by hesitating, pausing and with the use of pragmatic particles. In terms of the Norwegian that commence after *altså*, where A and D discuss in lines 5-7, the CS has a different function. Here, the switching transpose into having a directive- and integrative function as they exclude the non-Norwegian group from the conversation. Harzing and Feely (2008) argued that second language users are aware that their comprehension is less perfect and therefore rely on codeswitching to realign themselves before moving on to discuss the critical issues. However, CS, like we see in this excerpt, tends to occur spontaneously and without explanation, which could possibly lead to feelings of exclusion. It might be the case that E switches languages here in order to reject D's proposition without C needing to find the "correct" way of saying it in English. It is clear that the discussion in line 5-7 is of no concern to the current topic of using the BIM-X software and therefore of no concern to the other participants. Line 5-7 is therefore a discussion between D and E only and is quickly put aside as A continues the meeting in line 8. It seems to be the case that A regard this CS as something that is only between D and E for them to achieve a common ground of understanding regarding D's proposition. E's laughter at the end of line 7 is understood as A's opportunity to continue his presentation and the end of the discussion. There is a clear correlation here between the directive- and integrative function and the notion of linguistic erasure. The description that Apple and Muysken (1987) propose suggest that this type of CS is done deliberatively by a speaker to either exclude or include other people from the conversation. Although, I do not think that it is a conscious choice to exclude the non-Norwegians here, it certainly has that effect as the non-Norwegians are unaware of what D and E are talking about.

#### 4.2.2 Directive- and integrative function

#### Excerpt 10 "Norwegian discussion, BIM-X on Apple"

This excerpt transpires about 23 minutes into the meeting. The participants are talking about the software BIM-X, and A is showing the Norwegians how to use its different function. They discuss whether this is worth using in planning as well as during a building process. The CS in

this excerpt occurs suddenly when D asks if Apple can produce the same software, which is something they use in BIM-X, similar to Microsoft's.

- 1. B: [Have you:] checked up if eh: it's possible to have: (0.5) synchronizing from
- 2. SharePoint
- 3. A: yes
- 4. B: [in apple]
- 5. A: yes: oh in apple: I've got synchronizing from here: on the iPad (0.5)
- 6. B: yeah (1.0)
- 7. A: mhm
- 8. B: [on the phone] it's no problem (0.5)
- 9. A: [yeah on the phone]
- 10. B: [Macintosh] (0.5)
- 11. A: I think it does you can test it out if you like (0.5) ahm
- 12. E: I'm actually [inaudible] then I will get rid of this (1.0)
- 13. B: me too [laughter]
- 14. D: hvorfor kan ikke: Apple lage en sånn en (1.0)
- 15. E: de har laget en- laget noe som ligner (2.0) det er ikke likt nok enda
- 16. D: nei de har: [iPad pro men] den er jo: (0.5) den er jo ikke brukende
- 17. E: vet ikke
- 18. D: nei
- 19. E: den er svær den også er den ikke (1.0)
- 20. B: den er svær ja [men den er ikke full] [inaudible]
- 21. D: [men du har] du har IOS på den
- 22. B: mhm (1.0)
- 23. D: [du har ikke] du har ikke OS
- 24. E: nei
- 25. D: og da er det ikke brukende (4.0)
- 26. E: yes: (1.0) but back again (0.5) [we are talking about] drawing list
- 27. A: alright guys

As A is briefing the Norwegians on how to use BIM-X B, in line 1, asks whether it is possible to synchronize the folders he has on SharePoint onto BIM-X. A is uncertain of this but says that he can synchronize from the iPad in line 5. He then encourages B to test it out in line 11. In line 12, E jumps in and says that he will get rid of something, which is inaudible on the recording. However, based on the rest of this excerpt it is natural to believe that he will get rid of Microsoft if Apple is able to synchronize BIM-X. The code-switching occurs in line 14 when D suddenly

switches to Norwegian "<u>hvorfor kan ikke: Apple lage en sånn en</u>", meaning "why can't Apple make one of those". The participants then commence in a Norwegian discussion on Apple in line 14-25. E then switches back to English in line 26: "yes: (1.0) but back again (0.5) [we are talking about] drawing list", ending the Norwegian discussion. This allows A to proceed the meeting by going back to what they discussed before the Norwegian switch.

This code-switch is similar to Harzing et al.'s (2010) study in that the participants retrieve to their native language in an ELF conversation to talk between themselves. In their study CS was seen as something positive and important as a solution to the language barrier. He reported that if CS was needed in order to achieve a common ground of understanding, the remaining people in a meeting would wait patiently until the native conversation was at an end. It is difficult to determine whether CS in this study was seen as a positive. However, from this excerpt we can see that the non-Norwegian speakers in this meeting do not interrupt the Norwegians' discussion. This may indicate that this type of CS is a natural occurrence and that the Australian and Lithuanian are aware of and understanding of the necessity of this switch. Harzing and Feely (2008) claimed that there is a need for code-switching in at key moments in these types of settings. Due to the lack of comprehension, second language users have to compare notes and realign themselves before discussing a critical issue. However, the CS here is does not involve the critical issue they are talking about. Rather D asks a question on Apple's equivalent software, as he wants to use his Apple devices to perform the same tasks as Microsoft's. This discussion is on the side of what A is briefing the participants on and is of no importance when it comes to comprehension on the important issue.

This CS is a categorized as having a referential function because of *altså*. As discussed above, I interpret *altså* to be a filler word, which buys C time to figure out what he wants to say. However, this excerpt can also have a directive function in that it excludes the Lithuanian and Australian form the conversation when E commences in Norwegian. Furthermore, because this discussion is on the side of the critical issue, there is no need for the Norwegian switch. The Norwegians do not have to compare notes on whether Apple can produce a software in order to discuss drawing lists. This is similar to Lønsmann (2014) and Louhiala-Salminen et al.'s (2005) idea of linguistic erasure. Although the matrix language in this company is English, when there is a majority of people who speak a common embedded language, that language becomes the powerful variety.

# Excerpt 11 "Norwegian discussion, Parallels"

This excerpt transpires about 1 hour and 14 minutes into the meeting. A is showing E a folder of drawing lists and apparently it has not been stored properly by the employee who made it. As A is explaining to E how he wants employees to store the drawing lists, the other Norwegians starts discussing what they have achieved with this meeting. F jumps into the conversation by asking how she can install "Parallels". "Parallels" is a program that can run windows on mac, so that they can utilize programs that are limited to windows on Apple products.

- 1. A: [and you are going to see many folders] (3.0)
- 2. F: prøv da (2.0)
- 3. D: ja men hva: hva er det du skal gjøre nå(0.5)
- 4. F: jeg må ha inn eh: skal prøve å få inn Parallels (0.5) men jeg får ikke til å bruke det så lenge at
- 5. jeg ikke har den der eh: dupeditten der (2.0) det er noe ett eller annet som mangler der (2.0)
- 6. B: don't use the **duppeditt**
- 7. F: nei men hvordan skal jeg få hvis jeg laster ned Parallels da så kommer jeg dit også da: det
- 8. eneste jeg kommer på er det der (5.0)
- 9. D: men eh:
- 10. E: hva skal du ha Parallels for du da (3.0)

1:17:40

11. D: [name] they would like to join us for dinner

Prior to this excerpt A is summarizing the main issues that the participants have discussed in this meeting and throughout this excerpt A is talking in the background, which is inaudible on the recording. In line 2 F initiates a conversation with D in Norwegian. Essentially, she is asking C for help in installing a software called "Parallels". The entire conversation drags on for about 4 minutes while A is summarizing the meeting agenda and decisions that has been made in the background. This CS is an example of second language users retrieving to their native language and talk amongst themselves. Similar to the previous excerpt the CS initiates a conversation that is off topic. Contrary to the previous example A, who is wrapping up the meeting, does not wait until the Norwegians are done conversing. The reason for this might be that A feels that they are running out of time, or that he considers this conversation to be off topic as the people conversing do not stop him in is summary asking him to clarify or repeat.

I interpret the CS in this excerpt as having a directive/integrative function as F switches to Norwegian she includes D into her conversation whereas at the same time she excludes the non-Norwegian participants. Even though, this is the case, the CS here is of no benefit to the other participants and is on the side of drawing registers and storage structure. In addition, because the Australian is talking in the background about the "important issues" one might argue that there is no reason to believe that the non-Norwegian group feels excluded here. At the same time, because the non-Norwegian group have no idea what the conversation in this excerpt involves, there might still be some feelings of exclusion

#### 4.2.3 Poetic function

### Excerpt 12 "innfører det nå"

This excerpt transpires about one hour and seven minutes into the meeting. Prior to this excerpt E has asked A about drawing lists and updates, A is going through the procedure and asks C, a Lithuanian, to show the drawing procedure on the computer for everyone to see. A and C are clearly struggling to find what they are looking for and C blames her holiday. The CS occurs as E jokingly suggests that C should stop going on vacations.

- 1. A: can you show the drawing procedure [laughter] can you find the [drawing procedure]
- 2. C: but this is old one drawing procedure we- the- changes were made during my holidays (2.0)
- 3. A: which changes eh: okay (3.0)
- 4. E: you have to quit this holiday thing [laughter] stop that
- 5. F: okay [innfører det nå] [laughter]
- 6. B: in Sweden they are not allowed to: have: eh: weekend because then they need to be trained again
- 7. [every] [laughter] (3.0)

In line 1 the Australian asks if C can find the drawing procedure and show it to the participants at the meeting. However, C cannot find the revised drawing procedure file, which, she expresses in line 2, is due to her being on holiday. In line 3 A states at first that he does not know which changes C is referring to, but then realizes mid-sentence by saying "okay". There is a long pause as A is trying to find the drawing procedure file, before E humorously argues that C should stop going on holidays in line 4. The CS in this excerpt occurs in line 5 as F utters "okay [innfører det nå] [laughter]". F starts her sentence with "okay" before switching to Norwegian, which leads me to interpret this as being an intersentential switch.

Furthermore, in terms of function, I interpret this utterance to have a poetic function. My reasoning behind this is that the translation of the sentence in line 5 could be something like: "it is settle", as in "it is settled that there will be no more holidays". The utterance is obviously meant as a joke and the participants are laughing as it is said. In addition, B continues this humorous "segment" of the meeting by telling a joke about Swedish people in line 6-7. One could also argue that this CS have a directive- and integrative function as it is not clear whether the non-Norwegian group understand this utterance or not. It might be an utterance, which is meant for the Norwegian group only and is used to exclude and laugh at C. On the other hand, E's utterance in line 4 is uttered as a response to C's utterance in line 3 and is clearly meant as a joke indicated by the laughter. The laughter remark in line 5 entails multiple people laughing, and it is difficult to distinguish each of the individual laughs and therefore difficult to determine whether C is laughing or not.

### 4.3 Overview of results

In this section I will provide an overview of the results I found above.

	Referential	Expressive	Directive-	Poetic	Sum
	function	function	and integrative	function	
			function		
Tag-switching	2	3			5
Intersentential	1			1	2
switching					
Intrasentential	2	2			4
switching					
Discussion	1		3		
Sum	6	5	3	1	$\searrow$

#### Across both meetings

As we can see across both meetings most of the CS involved tag-switches and in terms of function most CS had a referential purpose. Some of these results will be discussed in section

5 along with some of my thoughts on possible reasons for these findings. Below are two tables showing the spread of CS for each meeting.

# First meeting

	Referential	Expressive	Directive- and	Poetic	Sum
	function	function	integrative	function	
			function		
Tag-switching	1	3			4
Intersentential	1				1
switching					
Intrasentential	2	2			4
switching					
Discussion					
Sum	4	5			$\ge$

# Second meeting

	Referential	Expressive	Directive- an	nd Poetic	Sum
	function	function	integrative	function	
			function		
Tag-switching	1				1
Intersentential				1	1
switching					
Intrasentential					
switching					
Discussion	1		3		3
Sum	2		3	1	$\mathbf{\times}$

Again, the results found here will be discussed in section 5. Important things to note here is that there were 3 instances of CS that involved a discussion amongst the Norwegian speakers in the second meeting and 0 instances for the first meeting. As a result, there are no instances of CS having directive- integrative in the first meeting, which is a category that proved to be closely affiliated with linguistic erasure.

# 5.0 Discussion

This thesis has explored the use of CS in a multilingual business based in Norway in order to shed light on what type of CS is used, what categorical functions these switches hold, and to investigate whether CS can lead to linguistic erasure. The data collected for this study consisted of four audio-recorded meetings held in Lithuania between Norwegian, Lithuanian and Australian co-workers. Of the four meetings, two were chosen for transcription spanning a total of 2 hours and 30 minutes. In this section I will summarize the findings from my analysis and discuss what the results may entail and why they occurred.

### 5.1 Summary of results

In the analysis, I used Apple and Muysken's (1987) categorization of CS, which is a categorization based on data from studies on bilingual participants. In addition, I compared those categorizations to Klimpfinger's (2009) classifications, which relied on data she collected in ELF-conversations. I found it useful to adopt their labelling of CS as studies of this variety in the BELF domain was lacking in literature. The data in this thesis revealed 12 instances of excerpts that involved CS, in which I interpreted:

- 5 tag-switches
- 2 intersentential switches
- 4 intrasentential switches
- 3 instances of second language discussions

As for the functions, I interpreted the excerpts to have the following:

- 5 instances of CS having a referential function
- 5 expressive function
- 2 directive/integrative function
- 1 poetic function (see results in section 4.3).

In terms of the types of CS, I found it necessary to incorporate a fourth category, which I named second language discussion. The reasoning here is because I based the types of CS on Poplack's

(1980) threefold distinction, which only concerns switches within a clause rather than several sentences. As mentioned in the theory, the definition of CS has broadened over time and Harzing et al. (2010) highlights this as their definition reads: *an occurrence of second language users reverting to their native language in an ELF conversation*. In total I found three instances of second language discussions, which will be discussed in more detail in section 5.4. Most frequent CS involved tag-switching where three of the excerpts involved a *ja*-switch, which is the Norwegian word for yes. An interesting and surprising observation is that all of the *ja*-excerpts transpired in the first meeting. Although it is difficult to say why this is the case, one reason might be the influence of the native speaker in the second meeting. I will discuss this further in section 5.2. As for the other examples of tag-switches, they are used as a filler utterance to figure out the correct term in English. These examples include excerpts 1 and 9. Another surprizing observation is that there is a relatively high frequency of intrasentential switches. Again, this will be discussed in more detail below (see section 5.3).

In terms of functions, a more confined categorization of CS compared to Apple and Muysken's (1987) might seem more fitting, as no observation of either CS having a phatic- or metalinguistic function was found. In addition, there was only one observation of the poetic function. I argue that the apparent closer link to Klimpfinger's (2009) categorization of CS is due to the closer link between ELF and BELF than between bilingualism and BELF. Klimpfinger (2009), as mentioned, claimed that CS has four functions:

- Specifying an addressee
- Signalling culture
- Appealing for assistance
- Introducing another idea

I argued that *specifying an addressee* corresponds with Apple and Muysken's (1987) *directiveand integrative* function, that *signalling culture* is similar to *the expressive* function and that *appealing for assistance* is a subcategory of *the referential function*. If we compare Klimpfinger's (2009) categories to the findings in this study, there is one noticeable difference in that CS in this study seems to have the function of buying time in order to find a word or phrasing in English. The notion of "buying time" is taken into account in the description of *the referential function*, as someone who is unable to express an idea easily. An example from this study, which cannot be accounted for by using Klimpfinger's (2009) categories is the *altså-* excerpt (see section 4.2.1). I interpreted that *altså* functions as an utterance used in order to "buy time" as the speaker, C, is struggling to express himself.

Taking the results found in the current study into conversation, this thesis suggests that the framework for classification of CS in BELF is different compared to ELF and bilingualism. A better framework in terms of functions of CS in BELF would be:

- The referential function Switching can serve a referential function when someone is unable to express an idea easily in one language due to lack of knowledge or lack of facility in that language. A speaker then switches to the other language in order to express the idea more easily or as a filler utterance in search for a correct term.
- 2. The directive- and integrative function Switching can serve a as a directive or integrative function when it directly involves the hearer. A speaker chooses to switch languages to either include or exclude other people from the conversation. An example of this is when parents try to speak a foreign language when they do not want their children to understand what is being said.
- 3. The expressive function Switching can serve as an expressive function when speakers include the embedded language in order to express some part of their identity.
- 4. The poetic function Switching can serve as a poetic function when a speaker says certain words or makes jokes in the embedded language for amusement or humour

This framework, however suggestive, is based on Apple and Muysken's (1987) six functions of CS from the domain of bilingualism. Most of the functions have kept their original description, except for the referential function. I suggest that in addition to a speaker switching in order to express herself more easily, one also switches to fill a gap in search for the correct term. In addition, because there were no instances of CS having a metalinguistic- or phatic function, these have been removed.

### 5.1 Overlapping functions

As mentioned above, I found it useful to categorize the CS based on Apple and Muysken's (1987) six functions of CS. This was mainly due to having a clearer structure when analysing the examples found in the data. The six functional categories that Apple and Muysken (1987) provide are listed below:

- 1) the referential function
- 2) the directive- and integrative function
- 3) the expressive function
- 4) the phatic function
- 5) the metalinguistic function
- 6) the poetic function

When it comes to categorizing the CS in my analysis I found that it is not always apparent where some of the examples fit. Some examples possibly overlap and adhere to the definition of two or more categories. Taking the specification that Apple and Muysken (1987) provide for the expressive function, *switching can serve an expressive function when speakers include the embedded language in order to express some part of their identity*, we could argue that every occurrence of CS is an instance of someone expressing some part of their identity. In the analysis and results section of this thesis I have argued that the data reveals 5 instances of CS having an expressive function. Most of these instances involve a tag-switch *ja*, which is hard to argue against only having one function, namely an expressive function. On the other hand, I have argued that other examples might carry out more than one function. Nilep (2006) suggested that a categorization of CS like that of Apple and Muysken's (1987) should only be a helpful tool in discussing functions of CS and that one should be aware that they might overlap. This point supports Klimpfinger's (2009) finding that in her data some examples of CS in her data could easily be assigned to one of the four categories she used in her analysis, whereas others seemed to fit more than one scheme.

In terms of CS having multiple functions, a couple of examples springs to mind. I argued that *derfor* (see section 4.1.1) held a referential function based on an interpretation that C struggled to express a word in English and used Norwegian word, which has the same translation as well as phonetic disposition. However, as mentioned in the analysis of *derfor*, as is the case for most CS, *derfor* could also be an expression of C's Norwegian culture. In addition, I mentioned that it might not be the case that all participants understood the word *derfor*, in which case *derfor* might hold a directive- and integrative function. Moreover, in the context of C's utterance, it could be the case that the utterance is an argument based on what A said prior to the CS and that C addresses A directly as a response. In which case the CS then has a directive- and integrative function. Another example of CS having more than one function is found in the

*altså*-excerpt (see section 4.2.1). I argued here that *altså* has a referential function in that D is unable to express his idea easily. I interpreted *altså* to be a pragmatic particle that D uses in order to buy time as he tries to figure out how to express his idea. In this excerpt, however, the CS seems to trigger a Norwegian discussion. After D utters *altså*, E disrupts D and commences in a discussion in Norwegian with D. I argued then that the CS transposes into having a directive- and integrative function as E and D excludes the non-Norwegian group from the conversation.

In addition to CS overlapping in more than one function, there is also an overlap in the description of functions in the literature. The categorization in the analysis was based on Apple and Muysken's (1987) framework. However, Klimpfinger (2009) provides a more general view that clearly has the same thought process. As mentioned in section 2.4.2 Klimpfinger (2009) states that CS has four different functions: Specifying an addressee, signalling culture, appealing for assistance and introducing another idea. Specifying an addressee, in Klimpfinger's view, is similar to Apple and Muysken's category directive- and integrative function. Klimpfinger (2009) states that *specifying an addressee* is CS preformed to direct one's speech to one specific addressee in contrast to the whole group, where as Apple and Muysken (1987) exemplifies the directive- and integrative function to when parents speaks in a foreign language when they do not want their children to understand what is being said. The later basically highlights a speaker's conscious choice of excluding someone from a conversation, which is also the case in Klimpfinger's description. Other overlapping functions in comparing Apple and Muysken (1987) and Klimpfinger (2009), which are also highlighted above, include:

- The expressive function  $\rightarrow$  signalling culture
- The referential function  $\rightarrow$  appealing for assistance

Although Apple and Muysken (1987) and Klimpfinger (2009) have different descriptions of the categories, they have the same idea. A reason for the different descriptions might be that Klimpfinger (2009) wanted to have the description fit more into the CS found in ELF. Apple and Muysken's (1987) framework was based on bilingual CS. In the theory section the studies are based on different domains ranging from bilingual, ELF and BELF-studies. This variety of studies will be discussed in a later section.

#### 5.2 Native influence and group setting

As mentioned in the methodology (see section 3.0), the participants and group setting were random due to the meetings being held in Lithuania. I realized when I got the audio recordings that two of the meetings could not be included in the analysis. This is because one of the meetings involved only Norwegians and the other was a briefing held by an Australian native speaker, which mostly contained monologues.

In the two meetings that were transcribed, however, the participants in both groups were quite different. I named them "Norwegian led meeting" and "Australian led meeting" because I believed this had a great impact on the results. Because the Australian is an L1 speaker of English, one might question whether this had any influence on the other participants. Cogo and Dewey (2006) found that participants had a tendency to converge towards the L1's speech patterns. They claim that this can result in subconscious accommodation or that speakers are so aware of the presence of a native speaker that they markedly change the way they speak (Cogo & Dewey, 2006, p. 83). While this is certainly a crucial point, I believe that if there was any influence of the native speaker is mainly observed in phonology and intonation of the L2 speakers and not the occurrence of CS. However, because of the two different group settings, this might be one of the reasons for the different types and functions of CS we see in the results and will be further elaborated in the discussion.

As we can see from the results in section 4.3, there is a difference in the outcome of CS. In the second meeting led by the Australian there are four Norwegians present. This led to these speakers reverting back to their L1. As seen in the results table, I claimed that there are 2 instances of this type of CS in the second meeting, which I named simply "discussion" (I will come back to these two examples when discussing linguistic erasure below). Whereas for the first meeting I claimed that there are no CS of this variety. However, one could argue that the *Sekundering*-excerpt leads to a discussion. The reason why I have chosen not to regard it as such is due to the apparent intersection between "discussion", the directive- and integrative function because of the context and C's signal for a pause. As mentioned, in the sentence C starts of in English before explicitly asking A for assistance: "eh just (1.0) **bare bare et spørsmål Sekundering hva blir det på engelsk?**[laughter]." Harzing and Feely (2008) highlighted that the need for CS in BELF is easy to understand as comprehension of second

language users might be less than perfect and they simply have to compare notes before making critical decisions. They also pointed out that feelings of exclusion and suspicion, which can occur when a group of speakers switches to a language the other group does not understand, can easily be avoided if pauses and reasons for the pause were explained. Although the pause is not explained here by C, I found that this example can be distinguished from the three discussion-examples in the second meeting because of the signal C provides by just. I claimed in my analysis that just pragmatically can be translated to hang on a minute or wait. Harzing et al. (2010) found that the participants in their study regarded CS as something positive and important as a solution to the language barrier. The interviewees concluded that if CS was needed in order to achieve a common ground of understanding, the remaining people in a meeting would wait patiently until the native conversation was at an end. I hypothesize that the non-Norwegian group in the sekundering-excerpt has a similar tolerance for this CS-discussion, even though I have no evidence to back that up. In retrospect, a semi-structured interview along with the data collected via the audio recordings, would have been beneficial in order to get the participants' views on this matter. This is a weakness of this thesis and it would have been considered if given more time.

### 5.3 Occasioning of CS

In the theory section I highlighted three potential reasons why CS can occur (see section 2.4.4). First, I looked at Myslín and Levy's (2015) study on lexical and syntactic contextual factors that can influence language choice. One of the factors they report is called triggering. A trigger word could be a proper noun such as "Oslo". These trigger words may be stored in completely shared representations across language systems (Myslín & Levy, 2015, p. 875). Thus, when a trigger is presented, activation of the second language increases and so does the probability that the next word is a CS (ibid.). I found no instances of a proper noun followed immediately by a CS and have therefore not commented on this in the analysis. However, if a trigger increases the activation of the second language, it is natural to think that this is not only the case for the next word, but rather that the activation persists for a while. Although may be just a speculation, there are some examples that might have been influenced by this. For example, the *derfor*-example has a proper name prior to the CS (see section 4.1.1), which could have influenced C into CS later in the excerpt. The proper name in that excerpt is anonymized and is indicated by *[name]* in line 5. The proper name is a building site located in Norway and because A, a

Norwegian speaker, is the one who is uttering it, it is expressed in Norwegian manner. Other such examples include excerpt 6 and excerpt 7.

A second factor of occasioning of CS, I argued, was the notion of cognates. Cognates are translation equivalents that have an overlapping lexical form, like Dutch-English *boek-book* (Kootstra et al., 2012). Kootstra et al. (2012) report that cognates are processed faster and more accurately than matched control words. They claim that this facilitation effect leads to a high degree of cross-language activation (ibid.). This facilitation is closely linked with triggering in that an activation of a cognate increases the probability of CS. In my analysis I claimed that the *derfor*-excerpt could have an affiliation to this phenomenon because of its similar phonological disposition to the word *therefore* (see section 4.1.1). The exception here, though, is that *derfor* is the CS-word and is not triggered by the equivalent *therefore*. I argued, similarly, that the *sporthall*-excerpt (see section 4.1.1) holds the same reasoning.

A third factor that was considered as a reason for CS was the bilingual proficiency. As mentioned in the background section 2.4, most studies regarding CS has considered bilinguals and how they use CS. Kootstra et al. (2012) tested whether bilinguals' relative language proficiency was of any importance when it comes to CS. Unsurprisingly, they found that in bilingual language tasks, a higher proficiency level reflected a lower cost of switching between L1 to L2 or vice versa. In addition, Poplack (1980) discovered in her analysis of interviews of members of the Puerto-Rican community in New York that speakers with a Spanish-dominant language mostly switched between sentences whereas the more balanced speakers switched more within sentences (intrasentential switching). In this study, I did not collect data about the participants' proficiency in their L1 or L2. However, across most of the excerpts utterances are heavily influenced by pauses, elongation of vowels and repetitions of words. I therefore interpret that most of these speakers have a higher proficiency in their first language compared to English. The results reveal an interesting finding: intrasentential switching had the second highest frequency of CS across both meetings. Four in total were found and all occurred in the first meeting, which had two Norwegian participants along with four Lithuanians (the Australian participant came into the meeting towards the end). The excerpts that had an intrasentential switch include excerpts 3, 4, 5 and 7. It difficult to answer why there is such a high frequency of intrasentential switches based on the study of Kootstra et al. (2012) and, I argued, the participants had an uneven proficiency level between English and their first language. In addition, if we look at each of these examples individually, we see a wide range

of functions of CS as well. I argue that excerpts 3 and 4 are of the "buying of time"-variety. Excerpt 5 is an example of a false friend that I interpreted to be a borrowed word from Norwegian that the company had included into their variety of English. The final excerpt had an expressive function and I interpreted it to be a way of signalling culture. I believe that more research on the functions and occasioning of CS in BELF is needed to answer why the frequency of intrasentential switching is high when the relative proficiency of both languages is believed to be uneven.

#### **5.4 Linguistic Erasure**

As mentioned, Gal and Irvine (1995) refer to a phenomenon known as linguistic erasure. According to these authors:

Erasure in the linguistic sense is a semiotic(meaning-making) process of differentiation. It is the process by which some individuals and activities become invisible owing to the observer's tendency to fit sociolinguistic phenomena into existing linguistic beliefs (Gal & Irvine, 1995, p. 974)

As mentioned above, this section will be discussed superficially as the methodology used in this study does not include the participants' thoughts and feelings toward CS. None the less, the notion of linguistic erasure in BELF is certainly an important factor to consider. Previous studies in BELF have suggested that CS can lead to exclusion of participants on important issues and decision making.

Louhiala-Salminen et al. (2005) relied on interviews and a questionnaire to analyse the communication challenges. The questionnaire focused on language use, communication practices and cultural views. Their findings suggest that speakers do not use pragmatic collaboration techniques to overcome the language barrier. The interviews suggested that language skills were linked with power, in the sense that employees with unsatisfactory language skills were excluded from meeting and thus from decision-making. Excluding people for unsatisfactory language skills is not unusual in the literature. Lønsmann (2014) had similar findings in a multilingual organization in Denmark.

Harzing and Feely (2008) state that, in terms of CS, second language users are aware that their comprehension might be inadequate and therefore feel the need to compare notes before moving on to the critical discussion issues (ibid.). The other participants then, become silent listeners and as CS tends to occur spontaneously, feelings of exclusion and suspicion can occur. In this study, I argued that some instances of CS have the potential of leading to erasure. When it comes to the company in this study, there is a majority of employees in higher positions in the hierarchy. Thus, most of the CS that occurs, when there is a decision to be made, are switches into Norwegian. However, Harzing and Feely (2008) claim that there is no reason why code switching should impair the relationship between employees in a business. If speakers who feel the need to compare notes simply call for meeting pauses and reasons for the pauses were explained, then problems could be avoided (ibid.). Harzing et al. (2010) held interviews in a German and Japanese corporate HQs in addition to their subsidiaries in Japan and Germany. The interviewees in their study concluded, contrary to Lønsmann (2014) and Louhiala-Salminen (2005), that if CS was needed in order to achieve a common ground of understanding, the remaining people in a meeting would wait patiently until the native conversation was at an end.

In this study, I interpreted that there are three examples of CS potentially leading to linguistic erasure. As mentioned, there is a close link between the notion of linguistic erasure and Apple and Muysken's (1987) directive- and integrative function. The very description of the directiveand integrative function that Apple and Muysken (1987) provide suggests that this manner of CS leads to exclusion: Switching can serve a as a directive or integrative function when it involves the hearer directly. A speaker chooses to switch languages to either include or exclude other people from the conversation. In my analysis, I interpreted that there are three instances of CS as having a directive- and integrative function and evidentially leading to linguistic erasure, the first of which being the altså-excerpt. As I argued in the analysis, the CS altså is interpreted in its own right as having a referential function. However, in that particular excerpt, a Norwegian discussion follows as E switches to Norwegian in order to get a swift conclusion to D's proposition (see section 4.2.1). In that case one could argue that E switches for efficiency purposes and that he uses the embedded language directly to D in order to deny his proposition of purchasing a shared account for a software for all the employees to use (a more thorough analysis is found in section 4.2.1). The two other instances of linguistic erasure are found in excerpts 10 and 11. In these examples there are no signals or explanations for the non-Norwegian group as to why the speakers are reverting to their native language. On the other hand, the discussions could also just be instances of switching for socializing sake in that the Norwegians utilizes their shared mother tongue to get a break in the middle of a meeting. Again, because there is no data material collected to determine whether the non-Norwegian group felt excluded or not, these interpretations are only made on intuitions. On the other hand, we can be sure that excerpt 2 highlights how a speaker can eradicate (to some extent) the possibility of leaving the non-Norwegians out of the conversation. As mentioned above, Harzing and Feely (2008) claimed that if speakers who feel the need to compare notes simply call for meeting pauses and explain the reasons for the pause, then problems of erasure are avoidable. The *sekundering*-excerpt highlights this as C simply signals that he needs to confer with his Norwegians spend some time talking amongst themselves, I argued that C initiated his utterance with *just* in English and then switched to Norwegian. The word "just" in English could pragmatically mean "hang on a minute" or "wait" and could be what C intended as he shifted his attention to A to discuss the meaning of a specific word.

# 6.0 Conclusion

This thesis has investigated certain features of CS in a multilingual business. The research questions were composed as follows:

- What type of Code-Switching occurs in a multilingual business using English as a lingua franca?

- What function does Code-Switching have in a multilingual business with English as a lingua franca?

- What consequences can Code-Switching lead to?

To answer these questions, I relied on audio recordings from a multilingual business with offices in Norway and Lithuania. I collected data from four different meetings involving natural occurring talk. Of these four meetings two proved relevant for the thesis and was chosen for transcription. From the data, 12 instances of CS were found and later analysed. The types of CS found was on the basis of Poplack's (1980) threefold distinction of CS from the bilingual field of study, tag-switching, intersentential switching and intrasentential switching. The results revealed that a fourth type needed to be considered, which I called second language discussion. The functions of CS found in this study led me to alter Apple and Muysken's (1987) framework of the six functions of CS to fit into those found in BELF. However, as mentioned, these alterations are merely suggestive as this is one study from one business revolving English as a matrix language and Norwegian as the embedded language. In order to further support the framework constructed in section 5.1, further study in various business English settings is needed. This study has also discussed the notion of linguistic erasure. I found that there might be a close link between CS having a directive- and integrative function and linguistic erasure. Three instances of CS having a directive- and integrative function was found and believed to have an influence, to various degree, on excluding employees with a different second language. In retrospect a semi-structured interview, along with the data collected via the audio recordings, would have been beneficial in order to get the participants' view on this matter, as it would have given me more depth to discuss linguistic erasure. The notion of linguistic erasure very much depends on an employees' own opinion on the matter, thus it cannot be determined whether there are instances of exclusion at this company.

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# Appendices

#### Appendix 1: consent form

NTNU

Norges teknisk-naturvitenskapelige universitet

# Humanistisk fakultet Institutt for språk og litteratur



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#### Audio Release Form

The signature below indicates my permission for Erlend Granøien to use audio recordings that have been collected during his research study on strategies within business English communication in which I served as participant. My name will not be reported in association with session results nor included in any of the data collection results. Any personal information will be deleted and will not be included in any transcripts related to this recording. I am aware that the audio recording may be used for the following purposes:

- Analysis of research and reporting results.
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I hereby consent to have read and understood the terms and conditions in relation to this research project:

Date\_\_\_\_\_

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# Appendix 2: transcription of the first meeting (Norwegian led)

A: This is meeting number three for [name's] brother he will analyse our strange English. And use it for some tests and give us a nice diagnose back on email.

B: Diagnose about us?

A: Yeah.

B: Oh my god!

A: hehehe. Good. And we start a meeting with an unvisible [name] for he has some homework to do. So I start with things, I have in my papers and he has to make some homework so [name] get the English translation of organisation plan that are a little bit prepared now. And name of him now is...

B: [name]

A: No, title! No, you have to use title. [laughter]

C: I will not respond unless you use the title. [laughter] [inaudible]. Project. Developer. And controller.

B: Ookay... (Speaks in Lithuanian). Dear project developer and controller [laughter]. Alright, very good!

A: Good, then

B: Everybody knows already?

A: Then we know.

C: Even [name] doesn't know.

B: okay.

A: He will get a report. [laughter].

D: He will be surprised.

A: I'm sure he agree. Good. This meeting is upcoming projects, transfer meetings and new project standard. Mhm. Yeah. The new project standard is now being made at [name's] computer. But, very

simple.. We have specified [name] function. His function is.. don't have a board here, but I have a map.. I can,

B: I am very sorry, I just take my phone.. I will back soon, I really sorry.

A: mhm, no problem.

(Speaking Lithuanian)

A: Yeah, [name] will leave department 60 and start his own club. [laughter]

C: It's me, myself and I [laughter] department

D: And minions.

## B: Minions [laughter]

A: And what is now coming out of [name's] computer is something like this. Marketing and developed department 60 is the same with [name], [name], not [name] he's out and [name] we are doing the same, but trying to do it better. We have a responsibility from the first request and fully until the contract is signed with the costumer.

B: yes.

A: and, in 2017, it stops there and then operation to cover. But we saw that projects starts leaping. It's not good. So, we discussed maybe to continue department 60, but now we have set a cut again, and department 60 will not have a active function after a contract more than a handover meeting. But, the new separate minion department [laughter] is taking care of this. So he comes aboard here, Project developer and controller. He has the hat project developer from when we see that the costumer will go for our offer. Like [name of project] now, we see they will sign. We don't have the signature, but we are sure they will sign. Then we get him aboard, he will make the preparation of the projects, so it's easy for the project manager to take over, and he will arrange the handover meetings. So, he will then have full focus on all the projects that will be something. All the projects that will not be something that is just involving me, [name] and [name]. He focus on the...

C: Ja, yeah. Main focus will be this line. I will of course work together with [name], giving him some input for progress plan and things like this, but I background.

A: background. Department 60 stops at the contract and the contract generates a handover meeting. So here we will have the critical handover meeting. When the handover meeting is done he has a lot to

handover to project manager and help the project manager to wake up, start up, and follow the speed, because [name] is keeping speed in engineering. He want to sign contracts with services, construction maybe digging companies if everything is clear, carpenters, so on. He want to sign contracts, so when the handover meeting is to the project manager, then as much as possible is clear and signed. Operation take over and [name] will more and more take the focus away, but he will get this(these) project planers, PPs, that will be a part of the operation as a support function to the project manager. He will be the controller that supports and control them, the project managers. And then he has the controlling responsibility all the way to the last penny is our account and he will end the story with the evaluation meeting.

C: and here also, for me to be able to do this job, this no conformity system needs to come in place very soon.

## A: mhm.

C: if we use SharePoint or if we use a phone app or whatever, it needs to be in place soon.

A: mhm. What do you think?

B: More or less it is understandable, I'm just thinking about some, maybe some kind of [inaudible] because we have, here we have one row and second row, one is [name's] academy and other one is [name's] academy. [name's] academy is together with project manager, [name's] academy is together with project coordinators, project planers. So, this thin line between [inaudible] needs to be very clear, identify explain what is, who is responsible for, because it is some kind of communication of the roles actually.

C: I think that project planer should be down here.

A: Project planer.

C: but, I will ask or check that system is followed, but the project planer is doing the work, I'm just checking.

B: Yeah, monitoring

A: The operation department and

C: monitoring, yes, and if I see that there is no safe job analysis and there is no meeting minutes, then I need to use this no conformity system and talk with the project planer, why here is there no meeting minutes. Is it forgotten? Is it stalled somewhere else?

D: One question, when we sign a contract with the carpenters and other parts, [inaudible] before the handover meeting. On which basis is the contract.? because the drawings will not be there and..

A: no, but on the same drawings as we signed contract with the customer.

D: mhm.

A: Because the drawing quality is what it is. You know for [name] now is drawing quality pretty high, attached to the contract. The same drawings are in his attachment to contract with [name]

D: mhm.

A: Everything from this stage will be evaluation orders.

C: mhm.

A: And drawing updates.

C: "derfor" also we need to have an up and running variation order system.

A: Because the headache before was with waiting for the last, last drawings before we get the last offer and updated price and updated contract. Then the time was going month after month.

D: but then there will be more details after the contract.

A: of course revision zero comes

D: Over here.

A: about here.

D: but its after the contracts were signed, so...

A: yeah, because we want the contracts with the sound contractor internally minimum signed at the same basis as the customer. Because variations internally.

D: And then there will be some adjustments and there will be final contract signed, but.

A: No, it will be contract plus variation orders.

D: yeah.

A: Gets a

C: and the main task here is to give all of you [name] and [name]...

A: same information?

C: No, not same information, but.. you can all see and feel comfort that there is work also in the future. To employ more people and things like this and also for ..

A: planning.

C: planning [name] will also see that here we sign, [name] sign contracts with [name], which means, and engineering, which means that they need to deliver and that there is a lot of jobs. So, maybe also to get [name] on the team to get more architects or engineers or whatever.

B: I have question. Who will do the project planning? You? Or [name]?

C: I.

B: you, mhm. And according this will be

C: He, this operation department with [name] and project managers, they will get.

B: From you?

C: A package. With progress plan, with payment plan, with prochasing plan, with... this project book telling what is expected in the stuff.

B: Okay.

C: So, but, I have some of this ready and some is not, so, I need to postpone this week, maybe one month. So we will have week three in one month before we start week four and handover meetings.

B: So basically from you we will get this project plan and we can plan our engineering and everything like that.

C: mhm.

B: We get feeling...

C: I will request form you from the list that we met and I will put date, this date and I will need this one, this date I will need this one, and if there is some changes in the progress, if the project is moved it's very important that we also update engineering plan and this list with the same amount of weeks.

B: mhm.

C: Just, (Speaks Norwegian: Sekundering, hva er det på engelsk? Sekundring? [laughter]

A: Eh,

C: Hørtes ikke rett ut. )

A: Progress checking. (Norwegian: kanskje. Prøv og oversett det motsatt da?) Following up with the progress.

So to answer this question from you, we have conflict between controller and operation.

B: yeah.

A: The controller will not do anything. He, as a project developer, he do a lot here and arrange the handover, but when it's the handover, then it's the operation who will do everything, but he just control that they are following [inaudible] order, structure, following the non conformist structure.

(C: and A: speaks Norwegian)

D: But operation can say that this plan is not released, they need foundation here, but they need foundation there. For example.

A: The operations get all the plans from him with a week zero. And week zero is when get the building permit and the time we get building permit is maybe known, or estimated.

D: mhm.

A: and in some project, the building permit are delayed in two weeks, somebody.

D: mhm.

A: it was delayed in two years? In [name] it was delayed in two month or something?

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## D:mhm

A: in [name] sixteen days. So, the project...the project will, it's not usually late, it's according to situation and complexity. [name] it's very hard to set exactly building date because it's so many things around. [name] they have now in mind something, but that is at the zero level, so all these plans goes from zero. But if everything is clear, then it's... you're free to prepare...

# D: Start.

A: Foundation plans and all the things. But the operation department are then trying to get this building permit, so they can start the clock with the customer.

D: mhm.

A: but, often you need input to start your work.

D: yeah, yeah.

A: He will now help to identify what input is not clear in this handover meeting.

D: mhm.

A: So, in the handover meeting it will be a actual list partial list of open cases.

D: yeah, that will be very good!

A: yeah, you are missing something, he is missing, he is missing, and then as soon as we cover... identify these missing links, then we have focus on them, get them in order and start.

Operation department is [name]. He has his project managers: [name] comes now with project architects. More and more. He has his site managers and then the project planner comes here.

A: [name] will love project planners, [name] will hate them before he understands that it's necessary, but I'm sure, in one year, we will have PPs in [name], but now, nothing. Yeah, but [name] want it, so the first PPs are now traced from [name's] office, he try to find PPs [laughter]. Yeah.

D: mhm.

A: and architects have focus on design...

C: This describes that the.. eh (Norwegian: besluttningslinjene) decision lines in [name] they are very short. This idea was launched by [name] yesterday. It's 24 hours.

A: Yeah, opening the door to [name's] Mercedes [laughter]

C: So

D: We didn't discuss that...

A: [laughter] yeah.

C: I have not seen that in my Mercedes, but [laughter]

But yeah, but 24 hours from ...

A: Idea

C: Idea to action, yeah.

A: Questions? Sceptic?

B: no, it was good... let's try.

A: Yeah [laughter]

D: We had so many plans, you know, that we just have to start doing that and then we will see immediately if there are some, you know, shady areas or...

A: mhm.

D: looks fine from now on.

B: Is the.. the permit is [name's] responsibility?

A: [name]

B: [name]?

A: yeah.

B: but which permits ...

A: 60

B: 60?

A: mhm.

B: the permit is 60?

A: mhm.

B: the permit 60 is finished here and building permit here.

A: but she has a

B: continue?

A: yeah. And she has also unvisible responsibility to get a permission to use the building.

B: yeah.

A: It's several unhidden that's clear and that's not involved many people, so that make it as a big topic. So, that's this one, [name] is now making this digital, hehe, yeah this 2016, you know, starting to late with all engineering. 2017 it went better, but in 2017 we did the same engineering many times.

D: and still have this mountain here.

A: yeah. So I think the predesign will start even earlier so we've got concepts even earlier, and we got... We in 2017 also had a drop here. Yeah, or here. Somewhere here we got a drop.Maybe like this. In 2018 we want to start... we are doing engineering when we are starting with concepts, and then we have the predesign.

B: boost after concept?

A: and then we are waiting for contracts.

B: yup

A: and then we have.. when you smell the contract, we ... and then we'll keep it and have it... finish it a bit earlier.

D: and build stuff.

A: and.. has built.. maybe something like this. Good! Then coming projects.

D: yup

A: [name] will update the master plan after, so we can see visible [inaudible] master plan. Yeah, and [name] has the responsibility there and [name] here, clear?

B: yeah.

D: Yeah, clear.

A: [name] when? I am not sure. What is in the plan.

D: We had to work on [name] for six weeks or something.

B: we are not so ready in six weeks.

D: no, that's not correct. We have the resources, we have now [inaudible] meeting, nothing, so...

A: [name] that is full gas from now, engineering. Everything is clear, everything is signed. They are now...

D: With [name] now, but he's.. now it's tricky because it's not as we spoke during the kick-off-meeting in Norway. Structural plan is not OK and it doesn't fit and the client will want the building, the upboarding to his architect and not according to structure.

A: then it's another [inaudible]

D: [name] knows more about this, I'm just, he's now talking with him and we are waiting for more feedback.

B: I have talked to [name] so basically there is options that we can put our structure almost according client room, but it will, we will more or less be like [inaudible] structure. Will be..

A: OK, so it's...

B: between this and this.

A: Is it more...

D: Yeah.

A: more expensive? More tons? More extras?

B: I have.. we have talked with [name] yesterday, so [name] thinking about that it can be totally in concrete, colons, beams, [inaudible], just maybe roof tries, because also fire proofing, you know, everything is 90, means there is a lot of [inaudible] on fire proofing.

A: mhm.

D: and maybe walls.

B: no, walls come on...[laughter]

D: but it's, the first [inaudible] wall is definitely be

B: yeah..

D: concrete

A: yeah

B: ground floor.

D: basement.

B: basement, yes of course. So, actually the key is now the architectural [inaudible] will be approved by client.

A: yeah.

B:: and maybe [name] can also give his input what he has [inaudible] and... Because [name] have feeling that it is thinking more like client. Maybe [name] can tell us what he know and he..

A: Yeah, he has specified that our offer is according to our access plan.

B: system, yeah.

A: And if we goes out from our access plan, then it's variation order.

B: yeah

A: mhm. I'll just note that very quick on email to [name] so he talk with [name].

A: okay, so [name] at, will be blowing in the ground and [name] will prepare a second handover meeting because the last one was early one, little bit too early because we was missing out that our information and he was missing his systems up and running, so it will be a new handover meeting.

D: [name] should also participate because he will be project architect and that would be

A: mhm.

D: a good start.

C: what is the most suitable arrangement for this meeting then?

D: arrangement?

A: Location.

- C: In [name]? In [name]? In...
- D: Depending on who will participate.
- C: [name]? Someone via Skype or?

A: I think [name]. Next technical week, and that comes fast. Did we set that?

- B: No we didn't set that... It will be first week of February I think.
- A: That's for the Monday the 5th somewhere?
- D: Yeah, February five to nine.
- B: Yeah, we need to set that one actually [inaudible].

A: mhm.

C: mmm..

A: not the Friday, but rest time open. And not Monday. What suits you [name]?

D: Well, Monday and Friday we will be flying, so

A: yeah.

B: this is very good.

C: quite open.

A: yeah. Then [name] talk with [name] and decide the time for it, but [name] (Norwegian: ja,) Anyway [name] and

C: Yeah, for [name] will be general February March.

A: Yeah, minimum.

C: Ja, at least. 10 years, then he's 72.

A: Yeah, and we need seniors. [laughter]

C: Yeah, and also for the record if I still have the same title in one year, then I need to add senior in front. Senior, project, developer and controller.

D: I think [laughter] eight months you will be more than.. haha

B: Senior of senior.

D: yeah, we can add two seniors after one year.

A: He need kind of this visit card [laughter].

D: like A3 visit card.

A: [name] has A3.

D: ah! Yeah, then..

C: Our general

D: A1.

C: but they are singing.

A: mhm.

C: A1 they are singing.

A: yeah.

D: A1?

C: Yeah, it's a pop group. They are singing, lalalalala. Never heard about it?

B: no.

A: Off topic.

C: From the UK?

A: attacking the topic again. [name]

B: yeah.

A: is [inaudible] in your plan?

B: Sorry, can we interrupt [inaudible] we, right now he need a lumber test, need a room [inaudible] actually has no total input about it. I can go stuff in this...

D: no, they not technical

B: and he have got some note to give but I'm also permission to [inaudible] still not completed, but it's actually quite important and the client should understand that.

D: yes.

B: for he will be placed. All the solutions will impact both of them.

A: Yeah.

B: And then they can start actually.

A: [name] is still hours, making the request. They have now use some six months on the request and they will send it think February. This said January before Christmas, but they are lazy.

B: Because maybe it needs to be some shafts for ventilation and...

D: Yeah, that might change quite a lot...

B: It can kill some plan. Yeah..

A: There is no request yet.

B: maybe need some push. But we can present our architectural plan and say that we need to information from ventilation.

A: Yeah.

B: and this can be like some push.

D: Yeah, but then we will need that shafts maybe the just the heights of the rooms.

B: yeah.

D: and that's got a big changes because then the stairway changes, then we have no space and then it's...

B: yes, this is...

D: very, very

B: important stuff.

D: the first thing before we fix the [inaudible] what we do is that we check the engineering how it's for the ventilation and beams because when we said we add staircases, and staircases takes space, and if we increase the height, you don't have space to increase the stairs. Then you have to replan the plans all the.. It's a, it's the reality.

B: I know you don't want to have that, but it is true. No really, it will affect them.

D: We could talk with [name] and..

B: NOO, [name].

D: about the concept we could follow.

B: He could repair but then [name] should [inaudible] to my concept.

D: yes. And then you could call them and ask maybe give up preliminary concept that you could understand and translate to ordinary people like [name] and me so you could include an hour..

B: Sell your concept to [name]

D: Yeah.

B: But really

- D: tricky situation that
- B: stop all projects basically, yeah.
- D: You can never skip the risk, but you can manage it, so..
- A: I will call the customer and make him a little bit afraid.

D: Like a consultant's do.

A: Yeah. [laughter].

B: little bit shaky.

- A: We can fix this with money. [laughter].
- B: We can consult consultants.
- D: Not consult consultants.
- A: (on the phone in Norwegian).

C: [name] After soup, steak, dessert and five beers.

D: Okay.

C: Then we did this. Position descriptions for [name],

B: [name] haha

C: [name], [name], [name], [name] and this..

D: PPT

B: project planner?

C: I think we were quite productive yesterday.

D: I cannot... what would you do after ten beers?

C: haha. Then we really get creative.

D: Yeah. That's the problem haha.

B: have the designer take a look maybe. [laughter].

D: Yeah. What was the result of the meeting?

C: It's. it was just [name] introducing the idea for [name] so that he can start

D: The idea is to have eight kilometre long tunnel for [inaudible] so with a foundation to hold it. That would be... for the whole world actually. Because the whole world is looking for the company with producing in many countries.

C: And the main thing is to. The idea is to transport salmon from the [name] (Norwegian: til meaning to) the..

B: storage?

C: No, not storage, but the company that pack, stand (Norwegian: Ja)

B: with [inaudible]

C: mhm. Eight kilometres. Salmon eight kilometres in hour [name] was speaking about

D: but the [inaudible] design is it finished or not?

C: hm?

D: pod design the thing that transfer because it has [inaudible] and so on. Quite a complex.

C: I don't know. I was introduced to this yesterday.

D: mmm. I know something about this project. I know that it's in...

C: it's a dream.

D: It's a dream but they already have working plan

C: Couple of years ago being the largest sport (Norwegian: hall) Sport arena builder in Norway was also a dream. Today we are. So

D: yeah.

C: Everything starts with a dream. Even, you have this known person "I have a dream"

D: Yeah.

A: Next week costumer and [name] ventilation and [name] will have a important meeting he said, to set location of ventilation (Norwegian/english: aggregats). Set main lines for things and then (phone call).

E: So, who's coming to dinner then?

D: We are.

B: Is this invitation?

E: Ey? We can take, yeah, you can come if you want. Take dinner at six o'clock. Indian restaurant. Okay?

B: alright.

D: The restaurant has address?

E: [name] come on.

B: [inaudible] in front of [name]?

E: yeah, yeah! That's where, yeah.

D: Yeah, I know.

C: We are talking about [inaudible] systems that needs to be in place very soon.

E: mhm.

C: and one of them is non-conformants.

E: yeah.

C: there we have this application that...

E: mhm.

C: you also have on your phone.

E: Yeah

C: with database solution and things like this.

E: We got one actually in SharePoint, it's actually nonconformist system in there.

C: (Norwegian: ja) Yeah, this is one solution, and there might be others and in SharePoint, but if we, the main thing is that it needs to be something like this [inaudible].

E: It's easy to do, I mean, like...

C: with this...

E: have you seen the app-set we've got? Could you take, come on have a look at the timesheet-app that we...

C: Just need to finish this list

E: I'll get [name] to come and actually show this to you. I mean, because we have power-apps that are actually on the back of SharePoint and that is power-apps that are what you're talking about. It's only developed...

C: and the thing is that we.. [name] does not approve it.

E: What, power-apps or SharePoint? Or?

C: no, non-conforment system other than [name].

E: [name] everybody has access to, that's the problem.

C: yeah. And. We are five companies

E: yeah.

C: needing to be part of this

E: yeah.

C: non-conformacy.

E: and power-apps and SharePoint is the easiest way, then what you can do, he can go in there and he can review them if he wants and then you can put them into [name] [laughter].

C: then.. that he can do. I will just receive, do and continue.

E: because, like everything put out a pen and paper maybe on this master plan.

C: but, what will...

E: if I can quickly draw this diagram, I mean, like with everything, I mean, especially with data, we got all the people down here, you know. All these people are not going to use [name]. So here we can have everyone, here in SharePoint, and then we create power-apps. Okay, and then here we can have [name], or maybe that's even up here or something like that, you know, and that's the same principles with the...

C: Why should we use [name]?

E: That's only if he wants to, I mean, we can, you can do everything you want here, you know. Can do all the analysis, can do all your...

C: what will, what will, be the cost for getting this into real life?

E: Yeah, I don't know, I mean, for all into SharePoint it's gonna be very low cost, I mean, you know, I've got to show you these power-apps and what we'll be doing with them.

C: mhm.

E: I mean this [name], he will create it very quickly for you. Let me just grab this power-app. And you'll have a look at this,

C: mhm.

E: and tell me what you think.

E: Coffee machine works.

C: two seconds.

B: One, two. [laughter]

C: Just need to finish...

E: Yeah, just showing it to [name]

F: power-apps is separate from Microsoft and then here you can have a lot of different, you see this. [inaudible] TimeSheets is for workers to enter what they did.

C: mhm.

F: Downloading starting. Strange for me, but okay. I didn't use it for some time. Some design changed [inaudible] approving.

E: Yeah, so then you can see, you know, who was in [name] for example.

F: Yeah, you can the different ones, yeah.

E: And it does normally work fast, so it's not to worry about.

C: Yeah, but if I have this app, I seen an [inaudible] and a drawing

E: Yup

C: I make some comments on the paper

E: Yeah

C: take the photo and send.

E: yeah, exactly

C: where do it go?

E: It goes into SharePoint.

F: SharePoint line I can [inaudible]

E: It goes into a list in SharePoint

C: Yeah, so we can use this list for changing or sending to, how do we do the process of

E: yeah. We can show, so just

F: data to create new ones? It opens the similar form for entry, the data I'm selecting. Worker, selecting projects, select. On the drawings now

E: Okay, and then you go to the buttons at the bottom, you know. We can make these super friendly as we need and all of that ends up in SharePoint.

C: we only need it simple.

E: yeah.

F: This, workers Norwegians use, I think, all of them. Lithuanians prefer somehow laptop because one guy has a laptop, but they usually are all together and one opens it and enters all records so,

E: Yeah, but power-apps is the mobile phone functionality

F: after select program

E: power-apps and it's just like, actually can you create this, complete this one and do you have SharePoint, you see it on SharePoint.

F: Selecting day, selecting work hours, I'll put like something

E: So, we should go soon.

F: 88

A: Yeah, what's left it's

C: A lot

A: yeah, have you sent to [name]?

C: I just finished

E: We can do bit of a working dinner as well.

F: and now it's possible to select for Norwegians. Overtime if we have some note.

A: Very nice if we can get...

Talking over each other [inaudible]

F: Everything what's in this info platform

C: where do I find the list in here? Engineering?

F: you go to, no to zero, zero. Go to zero and now this [inaudible]

A: Coming projects.

C: So, you don't have access to this page?

F: Sorry [name] [laughter]

C: How is this possible? Aaah, yeah, yeah, we need to go, yeah but it's services inside projects

F: yeah,

C: it is not there.

E: Yeah, I don't have access to that one either. There is one funny page, which comes up, which is that one. So, just click on

C: I need to go here.

E: Yeah, this is the correct one now.

C: and then

E: yeah, maybe lets just, always do this

F: straight to the main page

E: One funny link, which is obviously that one. Yeah, okay and

F: then go to TimeSheets. This is my entry today, 88 hours, what I just did today.

E: Okay.

C: but how, if this is a non-conformacy and we have, need to have some non-confomants coordinator, which looks at the case

# E: yeah

C: and I see [name] should have this.

E: and this is, if you look at [inaudible] non-conformist, we've got all the [inaudible] under the HCQ- page and managers and then basically we can assign a tall person, okay, so we've got all the support here, so we can see how many non-conformances, you know, so because everything comes from a list, we can actually internal quality order, so we got the [inaudible] safety analysis completed, and standing quality actions. [inaudible] actions.

C: The difference between [name] and [name] is that if you tell [name] to jump, she jump.

E: Yeah

C: If you tell [name] to jump

E: He won't do anything.

C: He sit down.

E: Yeah. So, here we click on pages and see the register. Here's our register. Okay, and we can see that, what based on that we have a non-conformancy and then we have creat actions based on non-conformants. Okay, so basically here is non-conformants and [name] who is all drawing number and then here we see the corrective actions with the non-conformant's register.

F: you can see the list, you can open it, you can see the [inaudible] you can make like this.

E: So, you can see we've liked the somebody raises non-conformants. So, there's an attachment on the drawings [inaudible] drawing procedure and landscape. There and then we have correction action register, which is linked together. So, basically [inaudible] we see which is the NCR, we can have multiple corrective actions. Let's try to find [inaudible]

C: Yeah, but the thing is [name] is out in the field.

E: Yeah

C: He's selling a non-conformants

E: and it will end up straight in [inaudible]-register maybe in a different place. With SharePoint of course, but

C: Yeah.

E: the power-app is what powers, you know, the data.

C: Yeah, and that's, that's okay. I see this. But when it's in the list here I would like to send this one. Here is for [name] to solve.

E: Yeah.

C: how

E: Responsible, he's responsible for example and then that's shared with them, or you can a work flow, which automatically emails as soon as it makes it on there.

C: mhm.

E: So, work flow is the actual process that does all the... as soon as the name's on there it will automatically email. So, when it's put into the list, status changes as well, you can also use work flow.Work flow is like the, what do you call it? I can show you on my computer how it works, but, I mean, you set up roles based on status.

# Appendix 3: Transcription of the second meeting (Australian led)

A: We're going to talk about drawing registers. Talk also about storage structure. This is a storage structure. Ahm. [inaudible]. That, I guess he made it clear that what we must have, is a method to back up all the drawings.

So, if SharePoint goes with it, we need to have a system. What we've done is. Can we show the big screen? Can you connect to here? Because you'll be presenting from here. Alright. I'll let you just set that up. What we now have, is we have full synchronization. In between SharePoint and our server. Our engineers are actually working off the server. They're not actually going straight into the SharePoint because we've synchronized and automatically it's like a local environment that they're working with. So they're just putting things onto the server, which is super fast. And that is automatically synchronizing up there with the SharePoint. And also that server is backed up, so if anything goes down we don't lose anything.

B: But it need to be present here.

A: Or that part. But if you guys had a server in Norway, okay, and if you had something set up, you could also synchronize to the server.

(Interrupts)

B: But that...

A: Right. We have, you know, everything is synchronized, because it offers its own server. It's just a [inaudible] actually. But if you don't stay on top of it we will need more than just a laptop so, if we really had our server, we had SharePoint, so everything's installed. Now, can you show that on there?

C: Which one?

A: How to sync.. We'll go back to this one, but I, do you have? I'm throwing [name] has just come back from holiday, she's been away for two weeks, she's sun tanned, [laughter]. She's probably missed some of the things that we've been doing. [long pause] What's the location, because no, no this is not the one. You've missed...

C: I, this, this, [name] had to put, he didn't put.

A: He did put it on to everyone's computer, except for yours [laughter]. Because you haven't been here... B: It's like a folder.

A: and get what was in the workshop. Yeah. It's a, can you, can you find the email? While she looks for that email and set her self up, this is the folder structure. okay. And this has been many iterations between [name], [name] and myself and some of the [company name] and everybody. And this was the structure for all design. I'm using the word design because architects don't like to be called engineers you see. So we say design because [laughter]. Architects design, engineers design, so for the whole design department; it's broken down to architecture, concrete, steel, TRP, NEP, BIM-models, work estimations, [inaudible], FTB and [inaudible]. So I think one of the things is to obviously.. We will look at whether this is suitable and then we make any changes that we need. [pause]

C: The main drive, the general drive is not under the .. it's in the sub folders. You just open? Lets say, I don't know, concrete and you can see general drives that you need.

D: But, is

C: For the assembly file, you have to go to the.

D: But, this, is this stretcher for every project? Or

A: Yes

D: is every project into this?

A: Can we show this example, please? They're under here. You need to find that, that,

C: I have the email. But, I guess...

A: No, you're missing, you need copy the whole thing, because the link. No,no

## C: This?

A: yes. Because it didn't come through. There's the link.

#### C: and then where?

A: You go to, into explore. Oh no, sorry that's.. okay. Here, control e.[pause], [inaudible] please. [pause] Can you call [name]?

C: I don't have my phone.

A: You don't have [laughter]

Alright, just bear with us. Little bit unprepared so, as I was saying, meeting in five minutes. [laughter] I'm really ... People has been away so.. [inaudible] easier on the last day. You know. [laughter]. She's got a lot to catch up on. Again, this is on the phone.

Alright let's just talk about the structure first.

C: Yeah. Just do that. This is engineering in a document folder, let's say [inaudible]

A: Yeah. Go through the SharePoint finder. So, you can see everything there.

C: There is no empty folders. Not for people, not to just open it and then you can find nothing. So there is just folders that are according to the structure, but they are with something inside.

B: So, [inaudible] for the..

C: What?

B: Empty folders are not

C: No

B: visible.

C: No

B: mhm.

C: They are not just even created. You create it

B: okay

C: When you start.

E: Put something in.

B: When you put something in you create. Yeah.

C: Yeah.

B: Understand.

C: And like concrete. There is according to the eh foundation, one, two, three. You can see the general drawings, and inside there is draw.. assembly drawings, drawings with pdf and DVG. Here is pdf. Ehm model. Models are [inaudible] every day.

E: What is the model? How, is it a part of IFC files or?

C: Yes.

E: All I, all IFC files? ... How is, before we had separate folders with, with IFC. For architecture.

C: This is if I go to structure concrete I get for foundation IFC-file.

A: BIM-model is under number seven. So, 0.7 we have your IFC-file.

C: If I go to steel.

E: Yeah, so this model is what the architects are working on?

A: Yeah. The overall one will be in 0.7.

C: yeah.

E: Yeah.

A: BIM-model, and that's where we have the [inaudible] from the whole system.

E: and there will be more than one IFC-file there or is that a model too? How is it work?

A: ehm.. (PHONE CALL 2 minutes)

E: I have a question.

A: yeah

E: this eh you have model, steel 0 3 0 1 model

A: mhm

E: is that an IFC-file or is it something bigger?

C: IFC

E: It is. Okay. And they ask about this 0 7 BIM-model. That should be the same IFC-file then?

A: This should be the entire, everything in one.

C: Yeah.

E: It's many IFC-files?

A: yeah, we have.. Discipline individual discipline once, and then this one should be in the entire..

C: yeah,

## A: Model

E: They are all, but, but how often does this 0 7 get updated?

A: Not regularly enough, this is the one that I need to see working a lot better. This is where if we come back to project architect. Is at the moment

D: mhm.

A: what. I mean. If we look at the history, I mean.

E: isn't it possible to mirror this 01 model into one folder.

A: 01 model is just going to be the architectural side, I mean, how about all the other disciplines?

E: Yeah, you have one there too. Don't you? Everybody...

C: Everybody

E: Architect should have one IFC-file, steel have one, concrete have one .

C: Architecture, steel, concrete has 02 models.

E: Yeah, and everybody should then mirror into 07.

C: no, they just upload it manually.

A: What, again a duplicate?

E: Do they just gather all IFC-files so that it's

C: No, I should just check the it was if let's say [name] was working on concrete, he has a concrete and then he uploads into BIM-model. To have everything he want.

E: Yeah. And that's a weak point. So we have to find a system that mirrors this. I think the...

A: the the the yeah, the other part is that the project architect is responsible for the overall BIM-model as well, so I think this is where where , what I was trying to say. The history guys at [name] used to look at the whole BIM-model, and the we were introduced at [name] we lost some of the control over that. So there was nobody looking at the entire thing in one place and then we were going like should we an engineering manager sitting over everything or should we have project architects. And the decision came back to project architects. Because they're the ones that usually knows what what everything needs to be. From the start and you know we were all under the sense from the concept to the project architect and then architect can run through it make sure everything's there and he sort of finishes with the full dictational everything together. How the architecture goes with the structural, with the MEP and he will make a report to make sure that, you know, if there is anything going into each other, he will then send it back to that discipline to get fixed. So we have someone responsible now for the BIM-model.

E: mhm. Eh because I think that it's this 07-folder. I want project manager to use that more.

A: Yes. That's.

E: and then it has to be updated to the latest versions

## A: Agree

E: at all time. So to find a way to mirror this model folders up to. Because all the, we can go to, when I go to, going to my BIM-system, I can go and look for all the models.

## A: agree

E: In each folder steel, concrete and but it.

99

### A: I agree

E: but we have to find a way to mirror this up so we have it

A: I think. I'm thinking do we need IFC-files into those specific discipline folders.

D: No.

A: I think the IFC-files in BIM-model

D: what when when I use BIM-model, I would like to choose. Which

A: Yeah, which

D: which one, eh yeah, which one do I need

E: from one folder

D: Yeah

A: because I think that the model in some of these other ones is like the [inaudible] model.

B: Mhm.

A: so we actually put the actual [inaudible] file.

D: yeah

E: then it's something else.

D: then it's something else. IFCs should only be in 0.7.

B: yeah.

A: Yeah, because then we have [inaudible]

B: mhm.

A: and then we know if we want to grab out our iPads. What we do, we synchronize structure BIM-model for the project.

D: mhm.

A: and then we get.. I'm using, it's not working well enough and, I mean, I can with this, you can do, I can do iPad BIM-X. We should be using BIM-X pro, okay, this is apple, on apple. And

E: BIM-X pro can that load IFC-files?

A: yes, I'll show you right now.

E: okay

A: I'll show you on mine.

B: you need to pay for that though.

A: No, ahh, it's not much money, it's like ten, twenty euros

B: oh.

A: and you can measure

D: yeah, but if you buy it on this [name] Apple 99, you saw everyone can join there.

A: yeah, umm it's not working, here we go [name], okay alright, and the way I like to get it is that all drawings are in this BIM-model here as well. So for one, we can just give it a minute, it takes a while. Once it loads it's loaded.

B: mhm.

A: eh,

D: and this is what the guys

B: inside

D: building

## A: yes.

D: wants. They using their phone.

A: yes, yes

E: Then we need all IFC-files at one place.

A: yes.

E: and that they can't find a new folder to load

A: exactly.

E: steel and then find a new folder somewhere to load architecture

A: yeah, and the project architect is responsible for

B: here you go

A: for keeping up this folder

E: mhm.

A: okay, so here we can see, okay. It moves very easily, it's just, you know, tchum tchum, like this.

D: mhm.

A: we can go inside the buildings, you can walk around. You've got the little

B: walking.

A: here, walking. Okay, ups, walk like this, okay. I wanna know, I wanna know the height from here. Measure tool, okay, and you can, you can, I think, here you got to do something, eh, I don't know how to measure, haha. Ups,

E: you need some training?

A I've inverted, haha, I've inverted something, okay, I'm measuring something there, but essentially, you should be able to measure, haha, I have no idea what it is. Let me try again, just get another view, you go back.

E: double tap.

A: yeah, I'll try that. Measuring tool, and what I'll do is I click on this, okay. See how it brings the drawing up?

B: yeah.

A: okay, and all the drawings are,

E: cool.

A: that you need is here as well. Tchum tchum tchum. Alright, so you got all the architectural drawings and what I want is to have all the MEP-drawings in here as well. At the moment we're not doing that, but we'll get all that working soon as well. So, every drawing is available in here as well. You can zoom in, okay, eh. Transition, see you can see it from the side, amazing bit of software actually.

E: [inaudible] we need this BIM-X-file

A: yeah,

E: and you can load the IFC-files.

A: the architect will be respons- here we go, it's working again nicely. So we can go in through there if you're concerned with a certain part. Zoom in,

E: mhm.

A: is this working finally today,

E: then we have a plan.

A: yeah, I suppose. It's just the angle that I'm standing on. Sort of managing. Ahm,

D: you are taking notes?

A: I think, I think, the notes here, hahaha. The note is gonna be is that the architect respons- that the IFC-files go in the BIM-model,

D: mhm.

A: and the architect is responsible for- the project architect is responsible for having everything clash free and up to date and accessible for and access for all the-

D: what, what was the

E: how did you get

D: what was the name?

E: drawings inside.

A: the- it's all part-

E: BIM-X.

A: it's all part of- it's all how the software works.

E: hm?

A: it's all how the software works. It's fantastic it all- it's part of the IFC-file

E: load that-

A: nope.

E: the loaded IFC-files.

A: It's part of the standard package.

E: [inadible]

A: [inaudible]

D: for ni og førti spenn.

A: go back to how it was. Alright, so let's go back to here.

B: in Norway i- in Norwegian App store it's five, eh, fifty euro

A: 50 euro, okay, so it's not too bad, because you can measure and you can do a lot of things.

B: yeah, yeah.

D: yeah but, eh, if, if we have altså, common

E: nei drit i det og holde på frem og tilbake med det der nytter ikke vet du

D: jo jo det går fint

E: hvis alle sammen skal drive å logge seg av og på bare tull [laughter]

A: but you'll see in this model here it should have everything just let me sit down for a second I'll[laughter] find out why it's

B: yeah.

A: but that's where we need to be because ah, we're showing to our new construction manager [name] yesterday on our way over, and I said to him I want you using this. Alright, I want you to have all this information loaded up to his phone. All we're missing is getting the BIM-folders, you know, working properly, clash free and and everything. And I think we can achieve this very quickly.

E: Yeah, because this is this is what everybody does now.

D: hm?

E: this kind of

D: yeah.

A: and obviously, jesus it's acting a little bit funny, but we can see the piping, ups. It usually works a lot better, I don't know why. Okay, so you can zoom in see where things are.

E: mhm

A: come along, measure. Okay, if you want to know the distance here, should be able to just go like this. Right here we go, okay, looks like you can sit there. And obviously you can get all your distances as you can see 5.5. It's whatever I measured there from that corner to the bottom of the look of it. And then you click on here and then this will go to the drawing associated with this area. This measuring tool is- let me switch it off. Then we go to here. Pushing too many things it's probably doing a million- come on.

E: This is to make section now[inadible]

A: oh, I'm still trying to do something am I? there we go, oh here we go something else, I don't know what this is

## E: sandwich list

A: yeah, looks like it. So the drawing has just come up, okay, but all the drawings are all part in here, as you can see. Okay and then so full package, you know for the project manager at least.

E: it's very nice.

A: and everything clash free. Okay and we can get the MEP stuff in here as well.

D: eh, the site manager is

A: yeah, site managers too.

D: very important to have. They are the one working with drawings everyday.

A: fully agree.

D: all day

A: yep.

E: but then I can actu- can I buy this part in in apple too?

A: yeah this is why we chose this one, is because it's on Apple-

E: but in-

D: eh

E: computer.

A: because it's on Apple and it's also on-

E: yeah, but the Apple computer, because I have BIM-X in-

A: I've got it on, on my computer here and you can have it on apple computer as well.

E: yeah.

B: have you checked up if it's possible to have synchronizing from SharePoint?

A: yes

B: on Apple?

A: yes, oooh, in Apple I've got it synchronizing from here on the iPad.

B: yeah.

A: mhm, so-

B: on the phone it's no problem.

A: yeah on the phone, I think it does, you can test it out if you like.

E: I'm actually [inaudible] then I will get rid of this.

B: me too.

D: Hvorfor kan ikke Apple lage en sånn en?

E: De har laget noe som ligner. Men det er ikke likt nok enda.

D: nei, du har iPad pro, men den er jo ikke brukende.

E: vet ikke?

D: nei.

E: stor den og er den ikke?

B: den er stor ja, men den er ikke full-

D: men du har IOS på den.

B: mhm.

D: du har ikke du har ikke OS?

E: nei.

D: da er det ikke brukende.

E: yes. But back again. We are talking about drawing list.

A: okay, so the next thing to look at. Because where drawing should start is with the drawing register.

D: yeah, but still we have a good system for drawings

A: mhm.

D: but the guys on site, they are not happy. They cannot- they are not able to synchronize, they are not able to access via SharePoint. They only can go via this link. So they are pissed. They start the printing drawings and we are back to our old problem.

A: just, if it's just permissions and access- these things we can change, I mean, we got to come up with something that works for everyone, I mean.

D: yeah.

A: we just need to find solutions

D: ja, ja ja ja.

E: we are moving a good but-

D: we have received many emails and phone calls.

A: Okay, I think that-

E: I think that the key is in the drawing list.

A: mhm.

E: because

A: yes.

E: when we find out now how we do the drawing list. How do we split it? Do we have more than one? Do we have one drawing lust for each folder? Do we have on drawing list-

A: This here. What we've done now, it is actually basically one list. Okay, now the issue we have in SharePoint is that you can only have up to five thousand records for one view.

D: mhm.

A: Okay. What a view is is say you've got ten thousand records. A view is like a like a filter. Okay, and what we've done is that we've now created a view to each project. Okay, so maybe just show [name] this here. So, so this allows us then to create links to the view if that make sense.

C: yeah the [inaudible] view inside this

# E: Ja

C: let's say need some [inaudible] you go just here because you [inaudible]And here you go and choose [inaudible] just choose and wait till it drops just all drawings from for this project.

E: all drawings for the project.

C: yes. And let's say you need the I don't know, the ventilation for example.

D: mhm

C: you choose discipline, ventilation

E: yeah.

C: and you can see which kind of drawings are. You can see the drawing number, the title, the revision date

A: yeah. We see the whole history of the drawing.

C: and then for many folders to look for the drawing you just press the drawing number

E: yeah.

C: and you can see here-

D: yeah, but

C: drawing

D: yeah. I understand, but [name] for instance he would like to have drawings for [name] on his computer.

B: mhm.

D: Synchronized on his computer then he go- goes into a folder called [name] or something. And look at the drawings

C: [inaudible] drawing,

A: mhm

C: but if-

A: there should be no reason to do that

E: but-

D: working with SharePoint online on site is a challenge

E: not if we-

A: there should be no issues in doing that

E: but next question. Because I think that it might be- this is the one way of finding drawings

A: yes.

E: another way is to make the list. This is not a list. Because when you deliver the FTE to costumer, you have to make a list of old drawings-

A: You can export that to Excel and all the latest revision. We do-

E: mhm

A: for each drawing is we also have a status. Is because all drawings get registered and everything that's issued is the status that you're after. If a drawing has been superseded, it will be in there as superseded.

D: mhm.

A: Okay, so it's the intension of the drawing register is someone who does not agree on revision goes to the register to find the latest issued revision. This is where you control-

B: here you can see how Trondheim, local authorities in Trondheim

A: mhm.

B: do it. The have- this is document plan

A: yeah

B: rules for the competition with the

A: yep

B: all this, and then they have drawings from the architect.

A: yep

B: and drawing from the-

A: and we have that but simpler

B: because we need also

A: mhm.

B: version revision date

A: yeah, we have all that that's all in here. So here-

B: it's the-

A: register's done everything into a spread sheet straight from that register. In the register we have the drawing ID, the drawing name, the discipline architectural structure. We've got about ten disciplines in there

B: yep.

A: Revision the revision date yeah, and ah, that's for steel, hahaha, yeah.

E: this is not synchronizable for projects on site?

A: no, this is just a list

C: this is just-

E: yeah, thinking about how to find drawings now

A: right. Now the drawings- so let's go to the folders. So, so what you can do if you're looking for one you find it through the register to get the right issue you then click on the ID. Yeah, this one we can delete because that's not going to exist anymore. So click on here and click on view library. Okay, now it'll take you straight to the folder where that drawing actually is

C: or you can just go to view library and you will find it

A: and then synchronize. So here you click on synchronize and I've got it onto the machine.

D: mhm. Yeah, but on

B: you need to synchronize

D: yeah, so many of these guys are not-

#### A: IT-gurus

D: yes, so then we need some, some kind of very easy understand

A: package

D: booklet something

A: yeah. And this is where in some cases why I've chosen not to give certain people access like some of the workers

D: mhm

A: because that might allow them to work on hard copies. Because to teach everyone computers, you know.

D: yeah, but I- a lot of [name]'s people coming on site, they are coming with drawings which were seven revisions ago.

A: okay, well this is where the work execution package that [name] controls and also the drawing register everything needs to be vent through through

D: I- hopefully [name] has been better but in [name] they were putting pipes in the ground.

A: mhm

D: where the stairs should be

A: okay, yeah. Yeah well that's that's could be because of lack of architecture

D: no. it was only due to old revision of drawing

A: okay, yeah.

D: so when they got a-

A: this is the thing is that a lot of project architects control the BIM-model

D: mhm.

A: so if the BIM-model changes and any revision data be done, then that's coming through the architectural

D: and that should be approved by project manager.

### A: correct

D: before any changes is done. If-

### A: yeah, because this is another project architect [inaudible]

#### D: mhm

A: is that- okay let's consider BIM-model something in 3D. So we have input and then we have output [inaudible] architectural drawings, structural, you know, concrete, yeah steel whatever, production, drawings. Let's just say the MEP drawings, whatever that may be. Is that we control the BIM-model, this is where all the control happens

### D: mhm

A: alright. So, with- if something changes in the architectural file, alright. It comes back through the BIMmodel through the close detection and it looks at the [inaudible] act disciplines. Okay, and the in the BIMmodel it'll say impact here impact here and in to back changes and then where- where revisions needs to be issued will be issued through that system. So the control is here in this BIM-model that's why that folder number seven is very important.

#### D: mhm.

A: because all impact needs to go back through there and drawings need to be reissued as a result of changes to this BIM-model. And the project architect manages this whole process. Okay, and that's what his role needs to be. At the moment we don't have anyone responsible, everyone's [inaudible]

B: yep, not my problem.

A: not my problem. Before-

D: as project manager it's my problem

A: yeah. But-

B: in the end.

D: in the end, yes.

A: yeah, that's why we have the project- the project architect sitting sort of to the side of the project manager. To support that, but he's to control the BIM-model to ensure that the project manager's got the BIM-model, but also to insure that the design team, you know everything that gets changed comes back through here and then gets re-evaluated and then drawings be issued again. So control is in BIM.

E: and the- I'm just thinking about the vulnerability here because if you are opening for synchronization you also open for deleting and creating folders, and uploading and things like that

A: yeah.

E: mhm. And then I have my Polish foreman on site, working. He's- he wanted to go and check drawings-

A: yeah

E: he also- if you open for synchronizing then, he also has possibility to do something stupid, like-

A: mhm. Well this is permissions we need to work out will the people agree or collaborate or edit permissions.

D: but- if you have read and you are able to download

A: you can't stop anything up there

C: mm

D: So, if you create new folders in this-

A: If you have read you can't create new folders

D: not even on local computer?

A: local computer you can do anything you want, you can download-

D: but if I have synchronized this new folder-

A: let's try and just, let's try and just

D: and I have read only

A: mhm

D: and I have synchronized this down to my computer, and-

E: Do you have possibility to synchronize- isn't it like that if you have possibility to synchronize, you also have possibility to do other stuff?

A: no, because all you're doing is you downloading, you're keeping a read only copy on your computer.

D: yeah, but I have global administrator, so I'm not able to test-

E: anyway, it doesn't matter because I just want it to work and the problem is that we have to make it easy not only for engineers but only on site.

D: yeah.

E: So the first question is: is it possible to synchronize a project. Because that's what [name] wants-

A: yes

E: on [name]

A: yes.

E: he wants to go to one folder, this is my project [name] I download-

A: yes

E: I have all drawings

C: you can

A: yes

C: yeah, but my [inaudible] doesn't work but-

D: but the question is more if we should instead of synchronizing-

E: download

D: SharePoint should use BIM-X, everyone have phone like this today.

A: yeah. Let's have a look and see example because in a way it's-

C: what it is and you can just-

A: see. And if you only want one folder you just select that. Open one up let's not even look at the project, let's just look at one part. You're only interested in MEP. Okay, you only go to synchronizing MEP

C: you just put this

A: See, and then you click sync and that's all you get.

E: okay

A: and-

D: for us with some computer knowledge this is easy.

A: yeah

D: for the guy-

E: [inaudible] So we have to help them if that's a problem

A: we have a new IT-guy, alright

E: yeah.

A: earlier that arrived, but essentially we can get him, you know, training teaching people how to use SharePoint. He's our SharePoint guru now.

D: mhm

C: you see here in this I can see what I [inaudible] and there's for everybody to see

E: yeah. I was just- because the- that's okay that- the problem now is that two different sites we are working from, we are working drawings in engineering and we are working with the project in projects.

A: correct

E: and that's quite slow

A: [name] the thing where I was two weeks ago Sunday last. Where were you? You and [name] [name] and [name] is very vocal on this point here

D: yeah

A: and what he said is we should not have two instances of all drawings

E: on one side I'm- I agree but it doesn't make it easy on site.

D: yeah, but the question is-

E: that's about speed, so if-

A: then we make it easier

E: yeah, it's little bit about speed because if your IT-guy now finds some

A: yeah

E: to make it a little bit quicker

A: yeah

E: then it might not be a problem again, because then it's just changing folders

D: the thing is- if they use BIM-X pro

A: yeah that's-

D: instead of drawing

A: that's a very good thing

E: yeah that's the-

A: yeah

D: then they don't have to go in there at all

E: yeah yeah

D: they have everything

A: yeah

D: on the phone.

A: that's even the best solution

E: yeah yeah yeah

D: and

E: we have to check

A: that's probably working well

D: yeah

A: and in that system then we find the key drawings that comes up the way they're going to be. Because if you have a lot of- we're making a thousands of drawings

E: yeah

D: every steel detail drawing

A: yeah haha. You know, so we define in the BIM-X pro the key drawings that are all they're going to be MEP drawings, they're going to need some structural drawings a lot of architectural drawings

D: mhm

A: and that's what the package is going to bring-

D: and the- it's not every worker it's normally it's bas, foreman, site manager and project manager that need-

A: so let's actually- under drawing list BIM-X drawing package or maybe let's put maybe can you write something on the board? BIM-X drawing package

D: mhm

C: here

A: mhm, okay and let's find that

E: point eight. Point eight

D: drawing list, BIM-X,

E: Because I thought that might- one of the solutions might be to keep an updated drawing list

A: mhm

E: for instance in excel and then work from excel and out to the drawing. Make links from- because then you can open- when the drawing list is in excel you can choose in MAP in bottom, because I saw in that one you can find second floor or something like that and click to the drawing number and get to the, get to the file

A: well, we've done that in the drawing register. I believe-

E: yeah it's not the same-

A: SharePoint as well. But I mean still I think, you know, the drawing register should be open to everybody that's got something to do on the project. Yeah, we should make it easy [inaudible] permissions whatever we need to do what needs to be, you know, something simple for everyone to use. And at the moment we've got [inaudible] design. Grip or something, where we put everyone as read access on the drawings. They can synchronize, you know, they can put to their local computer and then they can search for drawings through the register. If we need to give them access to navigate form the home page, we can do that as well, you know, if that was the issue, I mean, I haven't seen the reality, but- yeah, let's work through all these and I'm sure we can come up with something workable.

E: the problem now is that we have done a lot of things here, but people on site don't know what we are doing.

A: right. But I think if you can take some notes-

D: challenge is that we are never together. It was-

E: and we have to send information or go and do some training

D: mhm

A: yeah, but I think we are making some way in what we are doing here so it's quite clear what we can work out alone. For the IT side of things I think we need to speak a little bit with [name] our new IT-guy and he can do some programming if it's needed. To make things easier.

D: but where do you find BIM-X for windows?

A: let's go and have a look.

D: I mean the BIM-X site for downloading. For android and- I have had it before but that was on-

A: BIM-X- okay there it is and my screen is a but funny. We're working on a solution so- so here-

D: I had this for long time- on my computer

A: and I can now link straight through to where it needs to be. So, if we google- [name]

D: yeah this is-

A: so, what do we need to do to get all the MEP stuff we were talking about this MEP-modeler and BIM-X. Because when I look at BIM-X [inaudible] drawings. And that's the MEP drawings. So here is a model- okay

#### [inaudible]

A: yeah we can but what I can't see is when I go to the drawings, the drawing structure I see a façade [inaudible] section, doors [inaudible] etcetera. I don't see MEP. Understand?

[inaudible]

A: why can't I see the- in here you can see structure.

### [inaudible]

A: yeah, it's all architectural [inaudible] architecture. And you look at the drawings in here. Okay, because we should have all the [inaudible] because what we are talking about is that if we can produce BIM-Xmodels for the project manager and the site manager all they need to download is BIM-X. you have all the drawings in here and I get the full picture. [inaudible] [overlapping talk and phone call (ten minutes)]

A: Okay, if you want to- did you get it to synchronize?

C: no it didn't give me permission

A: can you call [name]

C: yeah yeah

E: can you print one of this, or not print but show me one of this drawings lists again.

A: the intention of the drawing register is that's where everything is controlled. So if anybody doubts a revision we got the one place that people can check. Everybody should have access to drawing register. So, if you got a revision four, you know, and if you want to double check to make sure it is the latest drawing register will tell you. It is revision four. If it is revision five-

E: isn't that the easiest way to find drawings too?

A: yes, and also to search and find drawings too. It's very easy through the drawing- it should be the number one spot.

B: now if I go to SharePoint and it's engineering

A: yep, let's just have a look

E: if you want the drawing register from this now-

A: okay, yeah, so engineering

C: because it's by default

E: okay. But then you can print me a drawing list so I can or not print it but you can show me- yeah, it's there. [inaudible] but it's all drawings.

C: yeah. Yes.

A: so, drawing register, you'll see it in a sec, okay, so it's all there. I actually will make one modification [inaudible] searches, so what project are you interested in? See those triple dots there? Click on those, there's other projects there. So, what it's going to show us, it's going to show the latest three projects along here, other projects like [name] okay, so this is the first thing to do. I'm going to remove this thing here. Okay, so

B: mhm.

A: then the next thing to do is check- click on the word discipline,

E: okay so it's all drawings there now.

A: Okay, chose disciplines you're interested in and you can see at the moment [inaudible] click on architecture. Alright

C: revision date.

A: and then when you find the drawing you're interested in, you click on the drawing ID. Click on the first one, okay. And then I'm just going to remove something now so we don't confuse it. And then that is there. I've got to remove this section here because [inaudible]. Okay, and then you've got the drawing, you can click on it, you can access it, you can see the revision

B: mhm. Very good.

A: and, you know, just as simple as that. If you want to export that list, you push off the top export excel and then you can give to the client in excel spread sheet on all the drawings and latest revisions.

B: yeah, very good.

A: I will just fix that one thing that we just saw then.

E: I'm just looking for what part is it- possible to read this? Check by exactly- it's not that but. Scroll down. Okay, so it's sorted by- should we deliver assembly drawings to-

C: but this is also superseded [inaudible]

A: it's my computer, it's not a bird. I downloaded some scre- not screen saver but different environment in the background because I wanted to see the beaches, you know, and sounds, sounds like a seagull or something.

B: it's a bird, it's a plane, no it's [name]'s computer. Haha.

E: but this is create a project number-

B: [name] doesn't have access to engineering.

A: she- because it's a link at the moment. Yeah. Our IT-guy that you meet tomorrow will start to fix permissions. We need to have a group matrix

B: yup.

A: I just simply- I'll add [name] to the- she's on there as- in the link but I'll add [name] to the main page anyway.

B: yeah.

A: I'll do that right here. This is the page permissions.

E: what you just need to do is just train the guys. Project managers and site managers and-

A: yeah.

E: training-

A: how do we go about training-

E: and that's quite important and we need to do it fast.

B: yesterday

E: mhm.

A: actually, I've got to be careful where I put the accesses because I've got timesheets- Yeah, I've downloaded- we'll get back to permissions because I'm going to make a mistake and end up spending a day fixing it. Haha. Yeah, we need to come up with a good condition to matrix- I think that's another one up here. Is do we have SharePoint, yeah. SharePoint I just put under there permissions at number five. Because[name] is laying there. We need to come up with a plan how we set all the permissions once and for all. (long pause)

Okay, [name] should have access to the drawings through the link.

B: you got an email [name].

A: I'll make- I'll set- I'll issue an email with the link.

B: mhm.

A: that'll make it easier. I'll do that right now. Drawing register. Actually, I'm going to fix that while I'm here. Hope that this doesn't cause any problems. Just deleted something from the drawing register. Okay, so that issued one doesn't exist anymore, and then permissions. Oh, that's a good point. Yeah, because the drawing register people don't have permissions to it- okay, yeah, that's why- okay. Okay. So, [name] should have email for that one. Now the drawing register, jeez, set up that one.

D: [name] is that in old town or?

A: no, it's just here. Just walking distance.

D: oh, it's just here, okay.

A: yeah, [name] something. We- [name] you should know where it should be.

C: yeah,

A: Ah, it's just here.

D: okay, there. I'm just talking to architects, they will like to join us or

A: yeah, we booked for them [inaudible] people.

D: yeah, but I- they will like to see the old town so they are-

A: ah

D: discussing it

A: we booked something. We tried to book in the old town, but it was full the restaurant.

D: okay

A: so, yeah maybe we can do a short dinner

D: I'll [inaudible]

A: Maybe we can do a short dinner and you guys could take them for a walk maybe. What do you think?

D: we will see

A: yeah,

B: let's get drunk in old town.

A: so you don't have access to this [inaudible] we'll put down a link

F: yeah. I didn't-

A: yeah, I need to get down to the IT-guy and- I don't want to spend time

F: yeah

A: on permissions

F: okay

A: because it's. I will spend-

F: just [inaudible]

A: so tomorrow let's go get permissions and we'll start to set up the groups and we will task the IT administrator to maintain those groups. Okay, I think that's the best way. I've added you to the group-

B: it's the simplest way

A: I have no idea why it's not there. There's- somethings missing. Okay, so let's go back to the drawing register. So the intention is that the drawing register controls the revisions, gives you that list. Remember you wanted these drawing lists. What happens when we change revision, we don't just change the number we actually create a new item.

#### B: yeah

A: new lists. So then you can see zero one two three, when the revision date was and also the revision numbers as well. So all the history is there. So where do we go from zero to one, or from a to b. it just gets superseded and then the new one gets issued.

E: so this drawing list is actually updated every time there is a new drawing loaded?

A: yeah. It's update- the engineer or the architect that's making the new revision to register the new one supersede the previous one and then, you know, have the latest one as the current version. Okay, it's in that drawing procedure, you can see the- you can show the drawing procedure? Can you find the- the drawing procedure.

C: but this is old one, drawing procedure. We- changes were made during my holiday.

A: which changes, okay.

E: you have to quit this holiday thing.

A: hahah

E: stop that.

F: okay, innfører det nå.

B: in Sweeden they are not allowed to have weekend, because then they will need to get trained again hahaha

C: there is drawing-

E: somebody should shoot this bird. Haha

B: fucking seagulls.

A: just trying to find the errors and this other thing, alright so what else, I mean the drawing register- the way that [inaudible] like I've done before. Is that- we have the drawing register, okay, where actually, we can continue on with this diagram here. BIM changes are made and then pass through the drawing register and then they are issued. Alright, so if anything is changed there, it's going to be registered as, as, you know, revision here, and then the drawing is issued. So, probably it doesn't go directly from the BIM-model. It goes from BIM-model, register and then change. Alright, so everything that we can see in the drawing register is the latest drawing. Because otherwise, how do we know? You go to the folder, the folder's not going to tell you that. You then have to search through the revisions in the drawings. So, that's [inaudible] the register so we can see what's there and then since we have linked the register directly to the document folder, all that happens is when you click on the drawing number, it's just doing the search function for you through the folder system, taking you straight to the drawing. Alright, did you take any

note [name] at all or? Okay, can you just make, let's just summarize the notes that you have and we might be able to wrap this one up.

C: [inaudible] this is not

A: it's okay, just

C: yeah, we were talking about BIM-X pro app to make it [inaudible] on site people and managers. Structure makes through [inaudible] engineering but also for [inaudible].

A: So, how, I think we got to not just sort of say. More solutions we need to come up with answers as well, so. Second one, can you say that again?

C: The second one?

A: yeah the one, the last one

C: folder structure?

A: yes.

C: [inaudible] appropriate to work for them on site to use the drawings by creating permissions.

A: okay, so

C: permission need?

A: so set a permission structure for all the drawings system

C: and

A: yeah.

C: people on site, not just implement something in the office, but to make for people to work on site.

A: yeah.

C: also, this BIM-model, it, we also talked about it mirroring model like in concrete, steel, for not duplicate in BIM-model, folder.

E: yeah.

D: didn't we

C: it was

D: didn't we decide that all IFC-files should be in zero seven?

A: yes

D: BIM-model

A: yeah. Did you write that down?

C: yes. But we will delete the model files, model folders in every-

D: no, this is tech-model and things like this.

A: Yes, the tech-model should be the [inaudible] file. The, whatever the tech-file is that should be through the IFC-file, which is an output of those models should be in the BIM. All IFC I think the statement there should read all IFC to be in zero seven BIM-model.

C: this drawing [inaudible] for every documentation

A: the drawing sorry?

C: export. Excel

A: through Excel?

D: drawing list.

C: drawing list.

A: yes

B: mhm

A: yes.

C: only for the BIM

A: I think IFC-

D: nor-

B: during the project as well.

D: during the project in Oslo town it was first thing they asked for, drawing list.

C: okay.

D: we didn't have any drawing list, so I don't think they have resieved it [laughter]

A: what we can do though in the future is we can get our IT guy to give them a link and he can prepare a external website

B: mhm

A: for them. So, that's links to the information, but we need to come up with, there is another thing we can discuss, you know, [inaudible] for our clients. And in there we can have a portal which gives them drawings, it could be progress plans, we could come up with a portal-

D: yeah, this, they have that in this project, [name] project hotel.

A: yeah.

D: but when we released the access, then externals fall out.

A: yeah

D: so, this is also something we need to discuss in SharePoint.

A: yeah, yeah, so, [inaudible] portal.

E: I have asked for architectural here now.

A: mhm

E: and I- is this two drawings or?

A: okay, yeah, so this is all the drawings.

E: in this

D: BIM-X pro

E: is this a folder or what?

A: yeah

E: or what is this?

A: yeah.

D: dropbox?

A: yeah. Click on view library. Okay, these guys are working differently and I'm not too- I was discussing with discussing. Just show one and then click on view library. I said to him, I said why are you doing things this way. Oh, because that how lalalala. Okay we can get him to explain if you click on- when you click on view library, there we got folders. Folders for each day. Yes. You are going to see many folders.

F: prøv da.

D: ja, men hva hva er det du skal gjøre nå?

F: jeg må ha inn, skal prøve å få inn Parallels, men jeg får ikke til å bruke det så lenge at jeg ikke har den der duppeditten der. Det er noe ett eller annet som mangler der.

B: don't use the duppeditt

F: nei men hvordan skal jeg få hvis jeg laster ned Parallels da så kommer jeg dit også da. Det eneste jeg kommer på er det der.

D: men

E: hva skal du ha Parallels for du da?

A: who is this bird? [laughter]

D: men Parallels client

F: har ikke peiling hva jeg skal-

D: nei, men du må

B: men hva skal du med det?

D: Parallels client det er noe annet. Du må, altså, du må, Parallels det lager en virtuell maskin på maskinen.

F: ja, må laste ned den da.

D: så, men-

E: hva skal du ha det til?

D: når du har lasta-

F: jeg skal-

D: Du må høre ferdig. [laughter] når du har lastet den ned, og installert den, så har du liksom delt

F: Ja, men jeg finner-

D: harddisken i to.

F: jeg finner-

D: nei, nå må du høre etter. Etter du har installert og fått to deler på harddisken, så må du installere windows, og så må du installere office-pakken og de tingene du skal ha og bruke og gjøre der inne. Og det er ikke gjort på et kvarter, og så må du ha lisens på Parallels først. Og så må du ha lisens på windows etterpå.

F: ja, men jeg ska- må ha må ha det fordi at adgangskontrollen vår

D: mhm

F: den er kun på windows, kun på windows. Den går ikke på mac.

E: da er det bedre at du låner min maskin for å holde på med det altså. For å drive og rote med det der det

D: ja, enten det eller så kjører du den via [inaudible] der er det windows.

F: via?

B: terminal-

D: terminalserver.

E: ja for å drive og- for jeg har gjort det der en gang og det-

F: ja, men jeg får ikke til å laste inn det programmet på terminalserveren selvsagt ikke.

E: nei, men bruk maskina mi da, for jeg bruker ikke den til annet enn å høre på radio allikevel [laughter].

D: radioen, men det er jo macen som er radio.

F: nope.

D: [name]

A: yeah

D: they would like to join us for dinner and hop- they hope that some of us will join them for

B: for drinks

D: old towns for drinks.

A: yes [laughter]

D: later on

A: well you guys can do that and [laughter] or just make sure that- I see if we are more people from our side

E: [name] is a good drinker [laughter]

F: no.

E: so she can join. [laughter]

B: [name's] girlfriend is young, so could probably join

D: mhm.

B: [name] needs to be up to speed with his girlfriend, so he needs to join as well. [laughter]